

THE NOR-WEST FARMER.

Vol. 17; No. 2.
Whole No. 184.

WINNIPEG, MANITOBA, MARCH, 1898.

\$1 a Year,
in Advance.



The Live Stock and Dairy Conventions.

The middle week of February was a very busy one for every one interested in the above named industries, and there was a better attendance with more sustained interest than ever before. Beginning on Tuesday night, which was devoted to factory dairying, and going on through Wednesday, when the dairy meetings and those of the Sheep and Swine Breeders went on simultaneously. The evening of Wednesday, when the dairy and stock men held a joint meeting in the City Hall council chamber, brought an interesting address of welcome from Acting Mayor Wilson, in which he spoke with justifiable pride of the steady expansion of the Industrial Exhibition and of the growing harmony between its directors and the representatives of the farming interests. Since 1891 the board had laid out \$110,000, and of this nearly \$70,000 had been contributed by the City of Winnipeg.

Thursday was taken up by the business of the Cattle Breeders, and reading of practical papers on stock, including a paper on "Lumpy Jaw," by Dr. Torrance, of Winnipeg. Another joint meeting was held in the evening. Hon. Robt. Watson and others speaking to a large and interested audience.

Friday was taken up by the Horticultural Society, afternoon and evening. Fruit, flowers and forestry were all dealt with in a very instructive and practical way, and a better display of interest in the work shown than ever before.

In the Fonseca Hall the Poultry men held a prolonged show of their pets, and justified by the high quality of their exhibits their claim to a large share of public attention.

The week as a whole has been full of interest and pleasure to all who had the privilege of taking part in these valuable conventions.

Pure Bred Cattle Breeders.

This association met on Thursday morning. The retiring president, J. G. Barron, Carberry, in his opening address, spoke as follows:—"The past year has been a notable one in many ways in the history of cattle breeding, and a distinct upward movement in values has set in. Owing to the removal of quarantine restrictions on the American boundary, a new industry has sprung into existence, that of shipping one and two-year-old stockers from this country to the corn-growing States to the south of us. Over 20,000 head of these stockers are estimated to have been shipped out of this province, comparatively high prices being received by the farmers for them. A good many carloads were also shipped to the western ranches of our Northwest. In addition to this 'stocker trade,' about 40,-

000 head of cattle have been exported via Montreal for the British markets. The prospects for beef cattle have not been so bright for many years; and as dairy cattle are also in strong demand, the prospects for the breeders of pure bred cattle are indeed most encouraging. Already prices have materially advanced. That this country is capable of producing cattle of the very highest quality has already been amply demonstrated, but I would like to caution every breeder against the temptation of raising any inferior animals simply because they have pedigrees. Set your standard high, and keep culling out everything that does not come up to that standard."

The president referred also to his attendance at the Exhibition Association and board meetings; to the conscientious and competent character of the judges, and the great work to be done by the association in connection with the improvement of the local agricultural fairs, as well as along other lines of work.

The report of G. H. Greig, secretary-treasurer, stated that they had secured from the Dominion Shorthorn breeders an addition to their last year's grant, making it \$150 for Manitoba and \$50 for each of the Territories. Reduced rates from Ontario made it easier to bring stock from the east at a lower rate than even the 50 per cent. rate reduction secured here on pure bred stock. The Northern Pacific and Lake Dauphin roads do not yet allow any reduction. The financial statement for the year ending Feb. 16th. 1898, showed receipts: Balance in Imperial bank, \$81.35; membership fees, \$43; government grant, \$150; total, \$274.35. Expenditure, \$133. By cash balance in bank, \$141.35.

The election of a representative to the Exhibition board was next taken up, and the question whether the representative for a particular year should be a competitor in exhibition was discussed at some length. L. A. Hamilton, of the Exhibition board, addressed the meeting, stating that the members of the board did not object to one of their number being an exhibitor, but that outsiders and unsuccessful competitors might complain of the position of a director giving an unfair advantage. It was decided, on motion of W. Lynch, seconded by W. J. Helliwell, that representatives at the Industrial Board should have liberty to compete, as heretofore.

W. Lynch moved that a Manitoba bred cow should be eligible to compete in Section 105. Class 11, against imported cows, and W. J. Helliwell, that Manitoba bred cattle should have a special class for themselves all through. Jas. Glennie moved that prizes should be given for a herd in all the dairy breeds. All three motions carried. R. Waugh suggested there should be a class for general purpose females, but this got no support.

An address was given by F. Torrance, B.A., D.V.S., on "Lumpy Jaw, or Actinomyces." The second name he explained to mean "ray fungus." The disease was caused by a minute organism which belonged to the class of fungus plants. Smut in wheat was a similar organism. The organism passed into the mouth of the animal with feed, such as straw. Multiplying in the tissues, it caused irritation. The doctor went on to speak of the ordinary symptoms; the mode in which the disease is disseminated, and its effects upon the animal tissues, causing swelling, etc. He discussed the question whether it is communicable

from animal to animal; this, he said, takes place when there is a sore discharging matter, which falls upon the pasture or food in the manger, and if, say the gums are broken in the skin, the disease is conveyed in that way to new subjects. The disease could be easily controlled in its earlier stages. Iodide of potassium was a cure when taken in time, but would not cure in every case when the bone is badly affected. The animal should be isolated before there is a discharge. Speaking of provincial regulations recently passed placing lumpy jawed animals on a par with contagious diseases, and making it illegal to sell the flesh, Dr. Torrance said no case had ever been known of this disease being transferred from cattle to man; there were cases in which human beings had the disease; but it appeared that both cattle and men took it in the same way. Some people had a habit of chewing straw, and the germs might be taken into the mouth in this way. The speaker was quite disposed to think that much of the meat was suitable for human consumption, as the disease was local. It would not be wise to allow butchers to decide which was healthy and which unhealthy, but with proper inspection in the earlier stages of the disease much of the meat might be used.

The question was asked whether the disease was on the increase in the province. Dr. Torrance thought it was, judging from the number of inquiries made.

Dr. Thompson found that the increase in the last three or four years had been very slight. There was a sort of influenza, which had been mistaken by some for lumpy jaw.

J. G. Snell, of Edmonton, Ont., spoke on sheep, and contributed a good share to the discussions on other kinds of stock.

Walter Lynch read a paper on "Fads in Stock Raising." The first fad he mentioned was the tuberculosis bogie. He was rather sarcastic in dealing with the subject of dehorning cattle; he found cows' tails more troublesome than their horns. He had never seen an animal hurt by goring, but he knew of a man who was now suffering from a broken leg caused by a kick from a dehorned bull, and he respected the bull for it. He summed up by saying that he regarded the process of dehorning as about as useful as cutting off pigs' tails, which was formerly generally practised. He said, in conclusion, that he did not regard fads as an unmixed evil. He disclaimed having any disrespect for scientific knowledge, though he poked a good deal of fun at some of the modern notions that are claimed to be conclusions established by scientific investigation.

Dr. S. J. Thompson took occasion to correct an impression that might be created by Mr. Lynch's paper, that tuberculosis was only a fad. He pointed out that it was an unfortunate fact to a good many who had lost cattle by the disease.

The officers for the year were elected as follows.—President, Jas. Bray, Longburn; vice-president, representing the Northwest Territories, Angus McKay, Indian Head; first vice-president, Jas. Glenrie, Orange Ridge; second vice-president, F. W. Brown, Portage la Prairie; secretary-treasurer, George H. Greig, Winnipeg; representative on the Industrial board, J. G. Barron, Carberry. Directors—Shorthorns, Walter Lynch, Westbourne; Herefords, Wm. Sharman, Souris; Polled Angus, J. Traquair, Welwyn, Assa; Galloways, Wm. Martin, Winnipeg; Jerseys,

Wm. Kitson, Burnside; Holsteins, A. B. Potter, Montgomery; Ayrshires, G. Steele, Glenboro; W. S. Lister, Middlechurch; Andrew Graham, Pomeroy; R. D. Foley, Winnipeg. R. Waugh and H. McKellar were re-elected auditors. J. G. Barron, W. S. Lister, Andrew Graham and the president and secretary were elected to the executive board.

President Bray read his paper as given in our Dairy columns.

In the question department it was asked if lumpy jaw was hereditary. Dr. Torrance answered that there is nothing to show that the disease is hereditary, but it may be contracted by the offspring after birth by association with diseased parents. A question as to the best remedy for lice in cattle led to the mention of quite a variety of remedies. Among these were coal oil emulsion, fish oil, lard, linseed oil, sulphur, a tablespoonful to each cow, and insect powder. Fish oil and insect powder had most support, but it was pointed out that to kill the nits, after they had got into the life stage, a second application was necessary.

At the evening meeting J. R. Craig, Meadow Creek, Alta., read a paper on "Ranching."

Votes of thanks to the Mayor and Council for the use of the City Hall were heartily passed at all the meetings.

Sheep and Swine Breeders.

At the annual meeting of this association, held on February 16th, there was a full attendance of members. The election of officers for the ensuing year resulted as follows: President, Dr. S. J. Thompson, Carberry; first vice-president, Jas. Bray, Longburn; second vice-president, Andrew Graham, Pomeroy; secretary-treasurer, G. H. Greig, Winnipeg; directors, representing the sheep breeders, Jas. Riddle, M.P.P., W. J. Helliwell, Wm. Wallace, and Edward Vance; directors, representing the swine breeders, J. A. McGill, J. Scott, Jr., Kenneth McLeod, and F. W. Brown. The president, Dr. Thompson, was elected as the association's representative on the board of the Industrial Exhibition. The afternoon session proved interesting, a number of papers being read and afterwards discussed. The first one was by F. W. Brown, Portage la Prairie, on "Selection, Care and Management of a Pure Bred Herd of Swine." The discussion on this paper was led by Dr. Thompson. The next address, "How to Produce the Hog the Packer Wants at a Profit," was given by Andrew Graham, of Pomeroy, and proved very instructive, as also was the next on "A Piggery and the Management of Swine," by Angus Mackay, superintendent of the Indian Head Experimental Farm.

In the discussion on these papers it was alleged by the pure bred men that pure breeds were better than grades, even in making commercial pork, but this was disputed by outsiders. All agreed that to breed from immature pigs of either sex was a mistake. If good, the old are always to be preferred.

Mr. Brown feeds sugar beets and turnips to advantage. He uses a pulper. Dr. Thompson believes in mangolds. He uses Yellow Globe and Large Red. Last fall in one night the frost went down to zero, and those roots suffered, but if stored in time there is little trouble in keeping them all winter. Mr. Brown takes up his turnips with a harrow, and this does not hinder them from keeping. He stored them in an old sheep pen, covering with dry earth and layers of straw, finishing with horse manure on top.

Mr. Whellams—Some one asked if mangolds would keep as well as turnips. I might say that four years ago I started to grow roots, and found that mangolds

were just as easily kept as turnips, providing you saved them at the proper season of the year. I found that the crop was larger, and they are easier handled and stored than turnips. We just dumped them into a root house and piled them up like cordwood. There is one point to bear in mind in making a root house—the frost should not be conducted from the outside by posts, etc. Have an air space all round.

Pig Management at Indian Head Experimental Farm.

By Angus Mackay.

The piggery on the Experimental Farm is a concrete building, the walls being solid, made with a mixture of coarse sand or gravel and broken stone. The building has a passage, 4 feet wide, through the centre, with pens of different sizes on each side. The floor is made with inch boards, laid double, with close joints, and slopes from back to centre, with a fall of three inches into gutters running along the passage. Gutters are 8 inches wide and 4 inches deep. Each pen has a trough, into which feed can be placed from the passage, and also a feeding box for dry meal, from which the pigs can eat at all times, but by which no waste can take place.

Ventilation is through the roof, and is not of any use in the winter, as ice forms in the ventilators during cold and thaws in warm weather. For summer or early fall the ventilation is satisfactory, but December to April the ventilators are not used. During this period ventilation is obtained through a door into an outer building. A furnace for boiling feed is placed in one corner of the building.

The building is not satisfactory for fall pigs, on account of dampness, through which the pigs become crippled and useless. Hogs over 8 or 10 months old do not suffer from this cause, and, except during extreme cold, gain in weight.

Buildings of concrete or stone should have hollow walls, and could be further improved by boarding up inside, with an air space between wall and boards.

A frame building, made with 2x6 studding, lined inside and out with two thicknesses of lumber, with building paper between, and having two air-spaces made by back-plastering between the studding, will make a dryer piggery than either concrete or stone, and where dryness can be secured, cold is not so serious a drawback, except to fattening animals. An improvement on the floor could be made by having it slope to the side of each pen and having a wide, shallow gutter running inside the pen and connecting with gutter in passage.

For fattening swine during December, January and February artificial heat is necessary. It is also necessary to do away with dampness during these months, and especially so where fall pigs are raised. Usually during the winter months swine are fed on dry grain. For fattening purposes it generally consists of ground wheat; for sows and young animals, barley and oats, mixed and ground. For young animals the meal is moistened, but is fed dry to older pigs. In the fall for two months after the pigs were taken from their mothers, turnips were boiled and mixed with meal. This ration was found very satisfactory.

Early in November seven large Yorkshire pigs were put up for fattening. The first 28 days they were fed on boiled wheat, and gained 200 lbs.; the second 28 days, fed on boiled barley, gained 195 lbs., and the third 28 days, on dry barley meal, gained 225 lbs.

BREEDERS' DIRECTORY

CARDS under this head inserted at the rate of \$1.50 per line per year. No card accepted under two lines, nor for less than six months.

W. S. LISTER, Middle Church, near Winnipeg, Man., Breeder and Importer of Shorthorn cattle. Stock always on hand of the best quality and most popular strains of breeding. Parties wishing to see stock met at Winnipeg on receipt of telephone message or telegraph. (1657)

WALTER LYNCH, Breeder of Shorthorn Cattle, Post Office and Railway Station, Westbourne, Manitoba. This herd has competed sixteen times, fifteen years with both imported and home bred cattle and has won fifteen 1st and one 2nd, herd prizes.—1539

J. F. HINDMARCH, Cannington Manor, Assa. Importer of Holstein Cattle. Young Bulls and Heifers in calf for sale; sired by a son of Jewel 2nd, her butter record is 27 lbs. 13 oz. in 7 days. Price low. Terms reasonable.

FIRST CLASS STOCK FOR SALE.—B. P. Rock, S. C. White Leghorns, White Wyandottes, Immen Geese, Pekin and Crested White Ducks. We have over 100 prizes in three years. John Kitson, Manitoba.

SAMUEL McCURDY, Carberry, Man. No more Indian Cornish Games nor Golden Spaniels. Hamburgs left for sale, but a few extra fine Spangled Hamburgs, Black Breasted Red Game and Pitt Games left yet.

D. FRASER & SONS, Emerson, Man. Breeder and Importers of Shorthorns, Shropshire and Southdown Sheep. Pedigree Poland China Pigs a specialty, from the best strains in the United States.

THOS. SPEERS, Oak Lake Station, Shorthorn Cattle and pedigree Berkshire Pigs. Herd bred imported Heir Apparent. Pigs of J. G. Snell's best imported strains. 1601F

J. VAN VEEN, breeder of Galloway and Hereford Cattle and Shropshire Sheep, Lake View Ranch, File Hills, Fort Qu'Appelle, Assa. 1581

JAS. BRAY, Oak Grove Farm. Breeder of improved large Yorkshire Pigs. Young Pigs for sale. Address Jas. Bray, Longburn, Man. 1594

KENNETH McLEOD, Dugald, Man. Cheshire White and Suffolk Pigs for sale. My stock at prize winners at the Winnipeg Industrial Exhibition. 1622

W. C. EDWARDS & CO., North Nation Mills, Pall. Importers and Breeders of Ayrshire Cattle, Shropshire Sheep and Berkshire Pigs. 1622

W. C. EDWARDS & CO., Rockland, Ont., Importers and Breeders of Shorthorn Cattle, Shropshire Sheep and Berkshire Pigs. 1633

J. E. MARPLES, Poplar Grove Stock Farm, Deerpark, Man., breeder of Hereford Cattle. Young stock for sale. 1718 as

JAMES ELDER, Hensall Farm, Virden, Man. Berkshire and Tamworths. Young pigs for sale. 1928

WM. CHALMERS, Hayfield, Man., breeder of Shorthorn Cattle. Correspondence solicited. 1939

A. B. POTTER, Montgomery, Assa. Breeder and Dealer in Holsteins and Yorkshire Pigs. 1939

STEEL BROS., Glenboro, Manitoba. Breeders of Ayrshire Cattle. Young Stock for sale. 1781

JOSEPH TAYLOR, Fairfax, Manitoba, breeder of Shorthorn Cattle. Young stock for sale. 1677

JAS. MURRAY, Breeder of Leicester Sheep. Young Rams for sale. Lyleton, Man. 1677

Pure Bred Ayrshire Cattle



Imported and bred for dairy, with grand constitution. Leading Gilt Milk. Butter and prize record. Ayrshires, Scotland and America. Importer and breeder choice Collie Dogs. Stock, all ages, for sale.

R. G. STEACY, Box 720, BROCKVILLE, ONT.

FOREST HOME FARM



Shorthorns, Yorkshires, Berkshires and B. P. Rock. For sale.—A few choice calves, by Manitoba and out of dams of fine quality and breeding. Also number of Yorkshire Dicks and Sows of both spring and fall litters. Our herd of Yorkshires are of the best quality, as our shire record testifies. Also beautiful lot of P. Rock's rollers, all at reasonable prices. ANDREW GRAHAM, Pomeroy, Manitoba. Roland—N.P.R. Carleton—C.P.R. 2119

DISCUSSION.

Some discussion followed the reading of this paper.

Q. How about the sows littering in a pen like that?

A. It is all right after March. It is during January and February that there is trouble.

Mr. Waugh—The fault with concrete is that it is a rapid conductor of heat, and the moisture on the inside of the pen condenses on the wall. No beast of any kind should be allowed to touch stone or concrete, especially in winter.

Q. You would not advise building a concrete pig pen?

A. No; not concrete or stone. The pig pen I have seen in the country was made in a side bank, covered with earth, and the frost does not get at it. If you can keep the frost out of a building there will be no dampness.

Q. Is straw a good covering for pigs?

A. Yes a straw stack is good.

Mr. Kitson—Referring to straw stacks.

Last year I put about two loads of straw over my pen, and as soon as they could not cover themselves up. I put some more on, and although not as fat as usual, they have wintered well. I would rather have them in a cool place under straw than in a warm place where they could not bury themselves. I have been in the country since 1879, and have raised a few hogs, particularly pure bred Berkshires. My building for pigs is an old one, originally a granary, and I cover it with straw. I have no trouble so long as I let the pigs run in the yard in the winter time, and the other stock do not interfere with them. I feed dry grain in the winter, no roots, and the slop from the house. I never had a pig crippled unless it was confined. The greatest trouble was that they used to get bare at night. Keep them under straw and they will come out all right. What is wrong with having a straw building? Take a hay press and press your hay into bundles and put it on a stone foundation. I believe that is the best pig pen.

Mr. Mackay—In travelling over the country there are lots of buildings such as Mr. Kitson describes. They last four or five years, and then begin to rot. My opinion is that the man who can solve the question of a dry, warm hog pen in this country will be the greatest benefactor to the hog raisers that has appeared in this country. When it is 40° below zero ventilators have to be closed.

Mr. Kitson—I understand that in your state you fed some of your pigs dry and some damp, and I want to know the effect on a pig of feeding it dry and moistening immediately before feeding. I think the moistening would be harder on a pig than being dry.

A. We find that is a fact. Where we feed on dry feed they can go and get the water as they like. Until the pigs are four months old we wet the ground and they require a little water.

Q. Do you soak it any time?

A. No; we have done so in tests, but not this year. It does not pay to warm water, as it is a good deal of trouble and expense.

Q. Do you find mixed grain better than any one kind alone?

A. We find wheat the best for fattening or market.

Q. But for store pigs?

A. Barley.

Q. Have you ever tried corn?

A. We do not grow it.

Q. Does wheat give as firm pork as barley?

A. Yes, I think it does.

Q. Have you exercised care in the change? Say as to feeding an animal on barley chop and change to wheat?

A. No; when the 28 days are up, we start the next morning on whatever we

are going to feed, whether barley, or wheat, or mixture. We have had no experience with mangolds, as they are a risky crop and do not stand frost.

How to Produce at a Profit the Hog the Packer wants.

By Andrew Graham, Pomeroy, Man.

Perhaps there is more profit to the packer than to the feeder in a pig of this sort. The first essential is a good sow to breed from. You may select from any breed you think best. I say Improved Yorkshires. Some say the sows may be a good grade; I prefer them pure. The difference in cost at the start will be more than made up by the easier feeding quality of the offspring.

If crossed, I recommend Yorkshire on Tamworth sow; then mate to a Berkshire or Poland China hog. I believe sows of these breeds are more prolific, and also extra good mothers. A sow of the right sort when found should never be parted with. When pork is a fair price and coarse grain cheap enough, it will pay to raise two litters a year after the sow has got well matured. I do so myself, and have had as good success with mid-summer pigs as those dropped in spring. The sow that raises only one litter a year is only doing half work, and there is more profit when feeding on a small scale in having young pigs to consume skim milk, etc. There is also the further difficulty that the early spring litter once a year crowds the fall market, while with two litters we market all the year round. The nursing sow should be liberally fed after the first few days. To wean pigs without checking their growth requires some care. The pigs should be fed skim milk in a trough which the dam cannot reach, feeding little and often, thickening the milk with wheat, shorts and chopped oats. If this is done at a very early stage, they will soon get almost independent of the dam, and are insensibly weaned. At eight or nine weeks' old they may be taken off altogether. At three months old confine them to three feeds a day, given regularly. Boar pigs may be castrated while with their dams. The Ontario farmer, with his clover pasture and lots of skim milk, can keep up growth easier than we can do here. The best substitute here for such a pasture is to sow an acre of early wheat, oats and barley alongside the hog pen. When this is a foot high turn in the sow and pigs to the half of it at once. There is not much feed in grain at this stage, but it will make healthy growth and enable them to take more profit out of concentrated feed. A patch of early corn near the hog yard is valuable for the same purpose, and sugar beets later on will help much to make a choice quality of pork, at the same time keeping down the cost of production. Weeds and surplus produce from the garden may be used the same way.

In winter I give charcoal and wood ashes as a condiment, occasionally throwing in a little salt and sulphur. A pile of grass sods is valuable for the same purpose, and small coal is equally useful. A few sugar beets along with other feed, and given twice a week, or oftener, are also good winter diet. Study always the comfort of the pig. The three essentials are warmth, good ventilation, and plenty of light. I built lately a pigery 40x24 feet, divided into pens 8x10, with a 4-foot feed passage along the centre. I have nine windows in it, four lights each. The walls are of

shiplap double, and the floor 2-inch plank above is my feed loft. I allow ten pigs to have the run of two pens, and clean out every second day, as nothing can be worse for pigs than damp, ill-ventilated pens. Strong, healthy pigs will bear closer confinement and less exercise, but by giving more bulky feed and more exercise, we can afford to keep them two months longer, and have pork of better quality at the same cost.

To feed profitably, we must select and breed judiciously, house comfortably, and keep the pigs moving all the time till the block is reached.

Glasgow Stallion Show.

At this, the great spring horse show for Scotland, there was a very large turnout of Clydesdales in every class. Of 23 aged horses, Marshall's Hiawatha was 1st and also winner of the Cawdor Cup. Here is the comment passed on him by a good judge: "He has wonderful quality of feet and legs, and, if a little light in the thighs and forearms, and perhaps not very wide of his quarters, still there was no more handsome horse in the ring." His sire was Prince Robert, and his dam Old Darling, one of the best mares ever seen in Scotland. In 3-year-olds there were 34, Dunn's Gay City, by Prince of Carruchan, and the Marquis of Londonderry's Chastilard, were pretty equal, the judges placing the English horse first, but later on, in another class, this verdict was reversed. In 2-year-olds, Clark's Garty Squire was 1st. His half-brother, Taylor's Sir Lachlan 2nd. Both are by Sir Everard. In the open class Hiawatha was again 1st, Dunlop's Montrave Mac 2d, Riddell's Good Gift 3rd, Kilpatrick's Cawdor Cup 4th.

J. J. Caswell, Osler, Sask., writes The Farmer: "One of my Shorthorns dropped a bull calf which weighed, at two days old, 106 lbs. Let some one beat this."

F.W. Brown, Portage la Prairie, writes: "Since writing you last, I have made the following sales: Pair of Berkshires to A. McRae, Starbuck; boar to each of the following: H. Whitworth, Morris; Thos. Gibben, Indian Head; P. Mair, Blake; T. D. Garnett, Russell, and G. Wilton, High Bluff; sow to R. Tait, Rosser. Stock all in fine condition. Leave for the east 26th February. My Ontario address is Alma."

Pig profit is always a topic of interest. A Dakota farmer writes: "My litter of eight pigs was farrowed June 26 last. On January 5 I sold three on the market that averaged 220 lbs. each at 193 days old. The pigs were weaned at six weeks and were fed the milk from one cow, with a small quantity of shorts and what corn I thought they needed. I would like to know if any of your readers can beat this at the same age?"

The great World's Fair Shorthorn, Young Abbotsburn, died last month on the farm of his latest owners, Messrs. Wallace, Buncetown, Missouri. He was bred by Messrs. Watt, Salem, from imp. Abbotsburn, a son of Red Gauntlet, a choice Sittyton bull. Jos. Lawrence's big white cow, Village Lily, and Walter Lynch's Village Hero were out of the same dam, Village Blossom, also of Sittyton breeding. Young Abbotsburn commenced his career in the States by beating Cupbearer at the Minnesota State Fair, going over the whole western circuit, and finally the Chicago World's Fair, unbeaten.



Answers to Questions.

By an Experienced Veterinarian.

As it is desired to make this column as interesting and valuable as possible to subscribers, advice is given in it free in answer to questions on veterinary matters. Enquiries must in all cases be accompanied by the name and address of the subscriber, but the name will not be published if so desired. Free answers are only given in our columns. Persons requiring answers sent them privately by mail must enclose a fee of \$1.50. All enquiries must be plainly written, and symptoms clearly but briefly set forth.

Barren Cow.

Farmer, Alberta.—"1. Have a cow that had a calf at 2 years old, is now 4, and I find it impossible to get her in calf. Have changed bulls, but it makes no difference. She is still milking well. Can anything be done for her? 2. Mare, 9 years old, came from Ontario last spring, comes out in a sweat every evening, gets very wet. Feels good and feeds good, drinks rather too much, has had vegetables and soft feed regular."

Answer—1. If your cow is fat, reduce her feed, and make her take exercise. If thin try to improve her condition. Give her twice daily in her drink a tablespoonful of dilute phosphoric acid. 2. Exercise your mare every day, if possible, and give her, twice daily in her feed, one drachm of powdered nux vomica.

A Sick Cow.

Subscriber, St. Eustache—"1. We have a two-year-old heifer that raised a good calf last summer, but I think that we weaned the calf too late last fall. The cow has a dry cough now, and she is getting poorer and poorer all the time. We tried oats, or barley with flax seed. We keep her in all the time and give her warm water. She doesn't feed very well. 2. Another yearling is foaming all the time and spoiling all his food. We keep him alone. He takes his feed well."

Answer—1. Your cow shows symptoms of advanced tuberculosis, but we could not say positively that this is the disease without a personal examination of her. However, we would advise you to treat her as an infected animal and a source of danger to the rest of the cattle. Keep her by herself, and do not use her milk without boiling it. 2. You should examine carefully the mouth of the yearling, and see if there is not something in the back teeth which causes irritation, such as a broken or decayed tooth, or a splinter of wood imbedded in the gum.

Castration of Bull.

H. H., Lundar—"1. Which is the best time to alter a bull, and how is the right way to do it? 2. If an animal stays at a man's place during winter, has he a right to take said beast in and keep it for one month and then sell it by auction, there being no municipality in the neighborhood?"

Answer—Any time will do, except "fly time." Secure the animal with ropes, so that he can't get away or hurt you. With a sharp knife cut through the skin and other coverings of the testicle, so as to fully expose the cord. Apply the "clams" to the cord as high up as you can without dragging too hard on the testicle, and tie them as tightly as possible. Then cut off the testicle about an inch

from the clam. Repeat the operation on the other testicle. The clams should be removed on the second day. Clams are two pieces of wood, shaped for the purpose, which, when tied together by the ends, enclose the extremity of the cord, and thus prevent bleeding. 2. Your second question is one for a lawyer to answer.

Ulcerated Tooth.

Farmer, Alberta—"1. A six-year-old mare went off her feed about a week, and then something broke in her head. She started to feed at once. Discharges very thick matter from one nostril, very foul smelling. Keeps working jaws and tongue similar to motion in licking salt. What is it, and what can I do? 2. Has small worms bad?"

Answer—1. The discharge is probably from an ulcerated tooth in the upper jaw, which has "gathered" at the root and burst into the nasal passage. It may dry up after a time without treatment, but it would be wiser to take her to the nearest V. S. and have the cavity opened and cleansed. Possibly a tooth should be extracted. 2. For the small white worms give, twice daily in the feed for a week, a powder composed of tartar emetic, two drachms, powdered areca nut, two drachms. After that give a pint of oil.

Abortion.

Subscriber, Yorkton—"A mare received injury from accident, and shortly afterwards slipped her foal. Another breeding mare in the same stable lost her foal a few days afterwards. Do you think the loss of the second one could have been the result of contact with the first mare, or is abortion a disease dependent entirely upon infection for its spread?"

Answer—It has long been a fact recognized by breeders that one case of abortion in a stable or in a herd is often followed by others. Among cows this sometimes has all the characteristics of an infectious disease, and recent investigations have resulted in the discovery of a germ which infests the vagina and uterus, causing the premature expulsion of the foetus. In mares the disease is not looked upon as of the same highly infectious nature, but owing to the more nervous disposition of mares they are easily excited by unnatural sights and odors, and probably in the case mentioned, the smell of the foetus or of the discharges from the first mare excited the second mare, and caused reflex nervous impulses, resulting in the second abortion.

Veterinary Association.

The annual meeting of the Manitoba Veterinary Association was held on Tuesday, Feb. 15, in the City Hall, Winnipeg. Dr. Hinman, president, in the chair. The following were elected officers of the association for the ensuing year. President, Dr. Little; vice-president, Dr. Spiers; secretary-treasurer, Dr. Dunbar; examiners, Drs. Hinman, Torrance and Dunbar; auditors, Drs. Williamson and Robinson.

Papers were read by Dr. Hilton, of Portage la Prairie, on "The Progress of Veterinary Science," and on "Influenza," by W. A. Hilliard, D.V.S., of Neepawa, both papers being afterwards discussed at some length by the members of the association.

The association met again next morning, when the question of prosecuting "quacks," and other matters concerning the internal workings of the association were taken up and discussed at length and the line of action to be adopted in the future decided upon.



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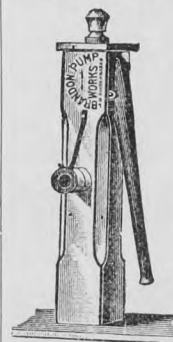
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Manitoba Dairy Association.

The twelfth annual meeting of this association was held in the City Hall, Winnipeg, on Tuesday and Wednesday, Feb. 15 and 16. R. Waugh, the first vice-president, was in the chair. The main business of Tuesday evening was a conference of representatives of dairy factories, and the turnout of those delegates was excellent. Invitations had been sent out to all the factories, and out of the number of representatives present several gave their experience of the difficulties encountered in operating the business, with suggestions for improvement. It is evident that poor cows in the hands of easy-going and indifferent patrons, along with haphazard settlement and corresponding difficulty in collecting the cream, lies at the bottom of much of the troubles experienced in operating all western creameries.

Thos Dickie, M. P. P., Souris, was the first speaker. He began with a few words respecting the useful career of the late Mr. Hettle, M. P. P., president of the association. He proceeded to speak of the creamery with which he had become connected during the past year. Twenty business men took one share each of \$50, a call of \$25 per share was made, and \$500 borrowed from the provincial government. Some \$750 was expended for machinery, and the total outlay, \$1,240, including the expenditure for improving the building. The building was leased for \$180 a year, the creamery not being run on the co-operative plan. The factory was run from May 22 to October 15. The number of patrons for the several months were 58, 46, 15 and 8. A loss was incurred of \$200. Seven causes were assigned: The factory opened too late. The farmers were not prepared to supply cream. The charge for making the butter, 6 cents, was too high. The first sale was delayed, and was too low. The delivery at the factory and the arrangement of routes were not the best. The class of dairy cows was poor. There was a lack of hearty support of patrons. The last cause was the high price of ordinary dairy butter in Souris.

J. S. Larcombe reported for the Birtle creamery as follows: Cost of plant, including creamery building, ice house, machinery and wagons for cream hauling, \$3,000. This is a joint stock company, with shares of \$10 each, on which interest at 6% is paid. The cold storage is fitted up in accordance with plans furnished by the Department of Agriculture, Ottawa. Operation during 1897. No. of patrons, 50; inches of cream supplied, 25,724; pounds of butter made, 22,846; average test, 85; average pounds per patron, 456. The buttermilk was sold to two persons, and realized, \$20.00. The creamery is so situated that a pipe of about 60 feet carries the washings into the creek, leaving no bad odor. The cream hauling was let by public tender, and principally at so much per pound. Some was paid for by the trip. Cream haulers were required to sign an agreement binding themselves to perform their duties according to instructions, or forfeit any sum that might be lost through negligence. There were five routes of an average of thirty-five miles, one route of forty-five miles cost \$2.95 per trip; two others of forty and thirty miles respectively, cost \$2.50 per trip; two others of thirty miles each cost on an average of \$1.90 per trip. The

time allowed for each trip was generally from 8 a. m. till 8 p. m. Route hauling we consider very much better than private hauling. The several items of cost of cream, hauling, making, keeping and marketing are as follows: Salaries, \$479.93; cream hauling, \$473.11; interest, \$257.52; boxes, \$151.46; insurance, \$71.38; salt, \$68.20; oil and fuel, \$62.25; indemnity to directors, \$53.53; repairs, \$43.72; ice, \$41.40; sundries, \$36; printing, \$16.50; postage and telegraph, \$14; parchment paper, \$9.32; butter color, \$3.95; legal expenses, \$6.25; cost of marketing, \$8.30; total, \$1,796.82. That is a total of \$7.82 per hundred. The butter sold at an average of 18½c., or a little better. The patrons got 10½c, 5c. monthly, 4c. in December, and the balance in January, when the butter was sold. The item for interest includes interest on loans to pay patrons. It cost half a cent for insurance and interest to keep the butter till it was disposed of. The item for salt includes what was used in the cold storage.

W. G. Grassick reported for Pilot Mound as follows: The territory we cover is about half open prairie, and the rest inclined to be scrubby. It is both a good grain and grazing country, but where it is scrubby it is more adapted for grazing purposes. Our territory is quite large. We take in a radius of from 15 to 20 miles each way from the factory, except to the south, where the Crystal City creamery, being only 10 miles from our factory, interferes a little with us. The cows are mostly Shorthorn grades, with a small sprinkling of Ayrshire and other breeds, good cattle, but of the beef type. The largest number of cows owned by one patron is about 16, but the great majority of our patrons keep from 5 to 13 cows, and quite a number from 3 to 5 cows. You will see by this that there is nothing peculiar in our district—that the same conditions can be found almost in any district in Manitoba. Number of inches of cream received at factory, 57,314; number of lbs. of butter, as per test, 49,831; number of lbs. of butter actually made, 49,454; number of lbs. of butter short of test, 377; number of lbs. of buttermilk, 160,686; amount received for butter, \$8,736.72; amount received for buttermilk, \$80.34; amount paid to patrons in cash, \$6,316.02. Total cost of manufacturing, including drawing cream, officers' salaries, tubs, salt, insurance, and all expenses, \$2,501.04. The average price received for butter during the season was 17.75; cost of manufacturing per lb. of butter, including all expenses, 5.01; cost of gathering cream per lb. of butter, 2.56; cost of buttermilk, per lb. of butter, 1.00. The above will show you the amount of business we have done, and also the amount it costs to do it, the amount the patrons received in cash, and some of the averages. The building and plant, as it now stands, cost, \$2,028.76. The building is of stone, with shingle roof, 36x36, with engine room attached, made of wood. Our mode of raising funds was as follows. The capital stock of the company is \$2,000, in 200 shares of \$10 each. We received a loan from the government of \$500, without which we never could have started. We canvassed the district and sold as many shares as we could, getting 25% cash, or to be taken out of the first sales of butter, and anyone paying their share in full before January 1st was to receive a discount of 10%, and in this way the first year we sold 110 shares, receiving in cash about \$420. Since then we have sold 67 shares and have collected on shares sold about \$780, and have still 23 shares unallotted, which will be easily disposed of the coming season. From the above it will be seen that the directors had quite a large debt to carry during the last two years, and found some difficulty in financing, having to give their own personal notes for debts, but we found at

all times our creditors very obliging and willing to help us out in any way they could. And now we are in a good position financially, having stock enough to pay the government loan and all our indebtedness. We have been careful of our stock, looking on every share as good as \$10 in Klondike gold. Joint stock affairs like ours are not as careful of their stock as they ought to be at all times. Our aim has been to place a share with every one who sends cream to the factory, thus giving them a personal interest in the creamery, and in this we have been rather successful. Almost all the stock sold is in the hands of the patrons, and we charge ½c. per lb. extra to non-shareholders for manufacturing, which is an inducement for them to take a share, or rather shows them that it pays to be a shareholder. We have eight cream routes, so arranged that all the teams leave the factory in the morning and return at night, having to travel on an average not less than 30 miles. We don't bind them to be in at any particular time with cream, as we generally find they get to the factory as soon as they can. We collect the cream twice each week in spring and fall, and three times each week during the months of June, July and August. We find that in order to have the cream arrive in good condition at the factory, it is necessary in those months to collect three times each week. It costs more, but pays in the end, as it does not pay to make an inferior article of butter. We take a test every time we receive cream from a patron, and give a statement of their account every time we make a payment, giving them the number of inches of cream sent to the factory in detail, and each test and the amount of butter according to that test. We consider it an essential to have good men as cream collectors, as both the quality and quantity of the product brought to the factory depends largely on them. We have 127 patrons who send cream to the factory. They own about 1,100 cows. Of course, this is not all sent to the factory, as they all make butter for their own use and send the balance to the creamery. So it is a little difficult to estimate the exact number of cows we get. We never refuse any cream from anyone on the route, if it is good, no matter how small the quantity, and we don't bind anyone to send their cows any length of time. If they are not satisfied, they can quit when they choose, and we find it works all right. We pay the drawers from \$2.50 to \$2.75 per day, costing us about 2½c. per lb. of butter. This is a large item, but it is one of those items there is hope for. For instance, take the territory we now cover. Each year the cows are increasing, and it costs no more to haul the cream from 200 cows on the same route that now has only 150 cows, and the coming season we have the cream collecting let for less than 2½c., being a saving of a little more than one-third of a cent on the lb. of butter from last year. We have seven directors, and the by-laws give them 50c. for each meeting they attend. The secretary receives \$150, and he sells the butter and attends to the affairs of the creamery generally. The treasurer is paid \$20, and pays only on the order of the president, countersigned by the secretary. The butter maker receives one cent per lb. for making the butter and furnishes his own help. There are two auditors, who are paid \$5 each for their services, and they earn it. As regards the mode of disposing of our butter, we always sell to the parties giving us the highest cash price f. o. b., Pilot Mound. We never send butter to be sold on commission, and whenever we had a lot of A1 butter to sell, we found the competition keen enough. When we offer a lot of butter for sale we always sell. Our dealings with the Winnipeg men have been very

satisfactory. We have nothing to complain of; they used us well. Of course, we would have liked to get a little more for our butter, but we are satisfied. By shipping to England, or the coast, we might realize a little more money for our butter, but would not be in a position to pay our patrons so promptly, which is a matter not to be overlooked. We have always sold our buttermilk for 5c. per 100 lbs., reckoning $3\frac{1}{4}$ lbs. of milk to the lb. of butter. This is an item that we always have had a good deal of trouble with. The patrons seem to think that 5c. is altogether too small a price. They tell you that Professor So and So says that for feeding purposes it is worth 20c. I think it is a pity that those men in high positions should make such statements. I know, if they had known the trouble it has caused, such would never have appeared, as I believe those men are doing the best they can and doing a good work, but are too eager to make the profits to the shareholders look as large as they can. Gentlemen, the profits to creamery patrons needs no coloring; the business can stand on its own feet, and pays as well, if not better, than any other branch of farming. I noticed, in a city paper of late date, one Lewis Gabriel asks the question: Does dairying pay, and if it does not, then we are educating the people along false lines and fastening a few more parasites on the farming community. This is a pertinent question, and one I have no hesitation in answering in the affirmative. Yes, dairying pays, if conducted along common sense lines. Take Fairplay creamery, for instance. We have 127 patrons, who own 1,100 cows. Now, the cream from those 1,100 sent to the factory realized nearly \$9,000. But that is not all. Those 127 patrons represent 127 families. Those families will average five persons. Now multiply 127 by 5, and you will get 635 persons. Now, those cows, in addition to what was sent to the factory, supply butter to spread on the bread of those 635 persons for 365 days in the year, which will amount to more than was sent to the factory. But that is not all. Those 1,100 cows raise each year 1,100 calves, which are fed whole milk the first six weeks of their lives. Now, take the value of those calves at the end of the year, along with the other items made from the cows, and I think you will all come to the conclusion that the cow pays, and is the poor man's best friend. Our patrons realize that it pays, and they are in a position to know. The fact of our patrons increasing the number of their cows shows conclusively that they believe it pays, and our volume of business each year increasing shows it, and our patrons are in a position to know, as one point the directors had always in view was to hide nothing from the patrons, but to keep them posted as much as possible with everything in connection with the creamery, and they are satisfied. The association since its start has been fortunate in its choice of directors, which is one of the chief causes of its success. Without live men as directors, no creamery will succeed.

J. D. Hunt told the experience of the creamery at Carberry, which is managed by a joint stock company. The outfit was worth \$3,000. The product was 36,000 lbs. of butter. They had eight routes. The total cost of making the butter was a fraction under 5 cents; the cost of management, that is, salaries, postage, etc., is $1\frac{1}{2}$ c. per lb. Five hundred lbs. had been sold locally, and the balance shipped. The average price had been 18.10 cents. Mr. Hunt dwelt strongly on the advantages of a one-man management. The lowest price paid to patrons was 10 cents. The farmers were told two weeks beforehand what would be paid; and the cheques were always ready promptly.

E. Downton told of the first two years' operations of the creamery at McGregor.

The cost of the building complete was \$2,300 or \$2,400; \$500 was borrowed from the government. The shares of the company were \$5 each, no shareholder to take more than 20 shares. The cost the first year to manufacture had been 6½c. The average cost of collecting had been 2½c. The patrons had been paid every two weeks by cheque; 80,000 lbs. of butter had been made in three years; 9c. was the least and 14c. and 15c. the highest that had been paid to patrons. The speaker was strongly in favor of management by one man. The factory had not been in operation more than five months during the year. The municipality had 800 to 1,000 cows, but not more than 500 cows supported the creamery.

W. D. McQuaig gave facts about the Macdonald creamery, which is situated 10 miles from Portage la Prairie, on the Manitoba & Northwestern railway; 3,000 to 5,000 lbs. were sold in Portage la Prairie at prices obtained for the article when shipped. In 1896, 22,000 lbs. had been sold; the cost of manufacturing was 4½c.; the cost of collecting was 1½c.; 18,077 lbs. had been made last season and sold at 18c.; cost of manufacturing, 5½c.

W. J. Helliwell, of Oak Lake, stated that the creamery there had been in operation for three years. A brick creamery 20x30 feet, with 10-foot walls, had been built. A joint stock company had been formed, chiefly of farmers; the shares were \$10 each. It cost about 7 cents to make the first year, and some 20,000 lbs. were made. The next year the factory was leased at 5 cents per pound of butter; 25,000 pounds were made. This year the quantity had dropped to 18,000 lbs. The price obtained had been \$2,725, about 15½c. per lb. They shipped every week. There were 60 patrons, and they were paid every two weeks.

Angus Mackay, of Indian Head, manager of the Dominion Government Experimental Farm, related the history of the factory, which was built two years ago and taken charge of by the government. He spoke chiefly of the question of routes. He stated that a good deal of money had been lost by the long hauling. The route had been turned into a cream route, and they had been drawing cream since. Last year they paid a man \$75 per month, nearly \$3 per trip, one trip being of 45 to 50 miles, and another 38 to 40 miles. This year two of the patrons had undertaken to draw, each over his own route, the one receiving \$2.50 per trip, and the other \$2 per trip, until the season was fairly opened, and then \$3. A man was hired in the village for the third route, at \$3 per trip. Thirty-two thousand pounds had been made last year and 22,000 pounds this year. Mr. Mackay advised the starting of the creameries early in the season, and the growing of Brome grass, in order that the milk might be obtained earlier.

J. R. Fanning—I am here to represent the Newdale creamery, which, with Mr. A. A. Jory, a buttermaker, proved itself at last summer's fair to be the banner creamery of this western country by taking three first prizes. It is a joint stock association, owned by the farmers and operated under the management of a president and four directors, and I think, from the figures that I can give, I can prove that it is still the banner creamery for economy and good management.

The Newdale creamery started its third season on the 1st of May, 1897, under the following conditions:—

There were on hand a supply of wood and ice, and sufficient butter packages to hold the make for about three weeks, but not one dollar on hand, and for this reason we were refused an ad. in one of the Winnipeg papers. We had a buttermaker engaged at a salary of \$70.00 per month. The hauling of the cream let at 9-10 of a cent per pound on the butter made; a secretary-treasurer engaged at

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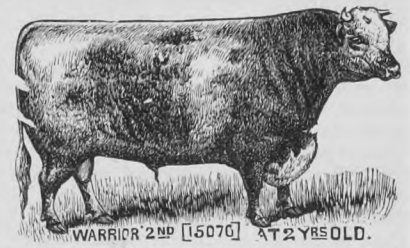


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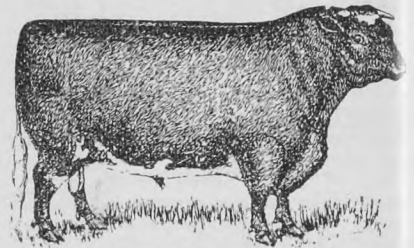


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I have on hand a few excellent young Berkshire Boars and Sows of fall litter, by English imported stock and home-bred prize-winners at reduced rates for the next 30 days. Boars are fit for service, Sept., Oct. and Dec. litters. Also a few Cotswold ewes, in lamb to an imported ram, cheap. Orders attended to as usual while I am away in Ontario. 2184 F. W. BROWN, Proprietor.

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\$50.00 for the season, and the sale of the buttermilk arranged for at 6 cts. per cwt., estimated at 3 lbs. of buttermilk for one pound of butter.

And what were the results?

The creamery ran up to the end of the first week in November, six months and one week, and during that time made 56,226 lbs. of butter, for which was received the sum of \$9,391.75, being 16.70 cents per pound net. Out of this the patrons were paid \$7,312.41, being an average of 13 cts. per lb., making a difference between the amount received and the amount paid to the patrons, \$2,079.34. From this we deduct the following amounts: Cash on hand, \$139.46; paying loan from Provincial Government, \$224; lumber and labor in extending building and additional plant, \$274.50; insurance for three years, \$22; in all, \$659.27; which puts the annual cost of making at \$1,419.37, or 2.52 of a cent per pound.

As to the difficulties in our locality. It is here as elsewhere in this new country—not enough settlers, not enough cows, and not enough of the right kind of care given to the cows there are during the winter season.

We have had complaints about the test. It appears hard for those who have a low test to understand why it is so, and why it varies from time to time.

We made during the season six payments, and thought the patrons were well satisfied, until they began telling us that according to the commissioner's statement, creameries in Manitoba had netted 18 cts., and asking why they didn't get 24 cts., as it was understood that the directors were not to keep off more than 4 cts. All the explanation we could give was that we doubted the commissioner's statement, but that if it was correct, other creameries had done better than the Newdale creamery had, and before leaving the city, I hope to find out if the statement was correct; and, if so, wherein we failed, so that we may do better another year.

At the meeting of Wednesday forenoon the directors' report for 1897 was read, and showed that in dairying matters generally the year had been a quiet one, but prosperous, and with good outlook for the future of this industry in the province. The total make of butter for the year, including both dairy and creamery, is given as 2,397,464 pounds. There is some little dispute as to the average price obtained for creamery, but all are willing to admit that butter making has been a paying business through the past year. Cheese has been even more profitable perhaps than butter, the total sale being 897,007 pounds, at an average price of 8½ cts. The market in the province has been somewhat peculiar, being, throughout the season, largely speculative. In fact, the market in Manitoba, so far from being fixed by the Montreal market, was really higher. This, of course, was caused by the large western trade and the anticipation of dealers that that trade would increase during the latter part of the season, has been correct. The government was asked for a grant of \$200, and gave cheerfully. Following the course of last year, regular markets were received from Montreal, printed in a daily paper, and sent regularly every week to all members of the association. In the weekly bulletin furnished the members, in addition to the Montreal markets, all information as to Winnipeg prices that could be secured were given. There is no doubt that the receipt of these markets have been a material help to both creameries and cheese factories.

The treasurer's report was submitted and adopted, showing total receipts of

\$271.73, and of expenses, \$258.32, being a balance on hand of \$13.41.

C. C. Macdonald presented his report as representative at the Industrial. The dairy building was crowded with exhibits, and the quality was excellent. There were 18 creameries represented, 15 of which were Manitoba creameries. This made 45 entries for the Manitoba creameries, each creamery making three entries, namely 56-lb. boxes for export, assorted tubs of 30, 20 and 10 lbs. respectively, and print butter for table use. The other three creameries represented at the show were those under the Dominion Government supervision, situated in the Territories. These three creameries made two entries each, namely 56-lb. tubs for export, and assorted tubs of 30, 20 and 10 lbs. respectively. The Manitoba creameries carried off all the prizes in this class. The quality of the creamery butter was most excellent. There was but one very objectionable feature with the Manitoba creamery package, and that was the absence of any covering for the package in transit. The package coverings consist of a jute bag, made to fit any sized package, with a gathering cord at the top. The cost of these bags is very small. In the cheese department of the Industrial there were eight entries, all from Manitoba factories. There were also a number of cream cheese, the quality of which was very good. There was but one entry in the Stilton cheese class, and it was a very creditable one. The dairy butter exhibits were very numerous, there being 365 entries in all. There were two entries from Iowa, U. S. A., and a small number from Ontario. The members of the Exhibition Board were ever ready to do all they could to further the interests of this department, when matters pertaining to it were brought to their attention. Mr. Macdonald strongly urged the association to bring the matter of enlarging the dairy exhibit building before the executive of the Winnipeg Industrial Association. He said the time has come when that building is far too small to receive all the exhibits. The building was full from door to door, and the butter packages had to be piled, in many cases, three deep in order to make room; and, as the dairy industry of the province is growing at such a rapid rate, it will prove utterly impossible to get all the exhibits properly placed next year. I would recommend enlarging the present building by building at the west side an extension the same size as the present one, making it all one building by removing the present western wall. This is a matter that should be brought before the Exhibition Board at an early date, in order that it may have their full attention, so that the building may be got ready for the 1898 show.

A resolution was passed expressing gratitude to Mr. Macdonald for his services as representative and for his suggestions.

D. Munroe, the present representative of the association on the Exhibition Board, addressed the meeting on the subject of improvements to the dairy building, showing the necessity for more room to display the products properly. He suggested a building on the north side of the present one, and double its width, half of it to be devoted to exhibits of implements and apparatus, an engine to be located outside, and the separators to be shown in actual operation. He pointed out defectiveness in the system of milk testing, advocated the placing in a separate building, suitably arranged, of cows subjected to dairy testing; objected to dairy cows being thrown into competition with beef grades; showed the unprofitableness of keeping cows that would not produce a pound of butter a day for 300 days in the year, and asked for instructions as to whether the representative of

the association on the Exhibition Board should be allowed to exhibit.

Expressions of opinion on these various points were invited, and the position taken by Mr. Munroe on each was endorsed by the meeting. A resolution was passed favoring permission to the representative to be a competitor in the dairy classes, with such protection as could be provided to secure him from criticism in the discharge of his duties as an exhibition director.

On motion of C. C. Macdonald, seconded by A. R. Fanning, it was resolved that the executive have power to hold the annual convention at any point in the province, at its discretion.

On Wednesday afternoon the following board of directors was elected for this year:—President, W. M. Champion, Reaburn; 1st vice-president, D. W. McQuaig, Macdonald; 2nd vice-president, R. Waugh; secretary-treasurer, Miss E. Cora Hind; directors, J. D. Hunt, Carberry; W. Scott, Winnipeg; Thomas Dickie, M. P. P., Souris; T. L. Morton, M. P. P., Gladstone; Wm. Ryan, Ninga; Wm. Grassick, Pilot Mound; W. B. Gilroy, Austin; Jas. Bray, Longburn; A. E. Struthers, Russell.

F. Lutley, of the dairy school, read his paper on "Home Butter Making," as given in this issue. C. C. Macdonald read a paper on "Packing and Shipping Butter." W. Wagner read a paper on "Good Milk the Proper Food for Infants." H. McKellar, of the Department of Agriculture, also addressed the meeting, which he considered to be one of the most practical ever held. The reports were exceedingly satisfactory; he would convey to the Premier information of the good work done; and he could recommend to him a generous consideration of the association.

Objections were taken to the undue multiplication of factories, and it was resolved to object to a projected creamery at Portage la Prairie.

The executive for the coming year was appointed, to consist of the president, the first and second vice-presidents, the secretary-treasurer and J. D. Hunt.

The Dairy Herd on a Grain Farm.

By James Bray, Longburn, Man.

The growing necessity for a rotation of crops as a means to agricultural progress makes dairying and the production of dairy feed of more practical interest now than ever before.

My plan is to grow barley in preference to summer following, taking the oldest and weediest land to start with, and applying all the manure I can gather together, putting twelve or fifteen loads to the acre. In early June, or late May, I start my plow, but much depends on the season. I want to plow under a good growth of weeds, and to attain this I harrow before grain seeding begins, if I have not already given it a light furrow in fall for the same object. I sometimes use a spade harrow for the same purpose. After plowing in June I seed closely after with a shoe drill, and, besides harrowing, roll with the heaviest roller I can get to hold in the sap, which ensures early germination. This brings such a growth as will choke all the weeds in the crop. The barley is harvested in time to allow of the land being plowed and start another crop of weeds to be killed by the winter frosts. It is sure death to wild oats. The next season's crop is wheat, and as good in this way as if I had fallowed. I seed down with five or six lbs. timothy, and cut it as hay as long as that will pay. In 1896 I pastured 80 acres of this with 80

head of stock from early spring to the end of June, when I started to break it up again. I had equal success in 1897, but the grass was easier eaten down. I have not tried other grass. The barley makes good chop feed, but for rough feed I find green corn and oats sown about June 15 a good crop, though very rusty. Last year I sowed oats, June 1, on land prepared as for barley; had a great crop, cut just as they began to turn. I ran my corn and green oat sheaves together through the cutting-box, with good results.

So much for the feed, now for the cows. I let the cow lick her calf till dry, then remove it where it is fed its mother's milk for four days: then sweet milk, gradually introducing skim, warm from the separator. In a month I use skim milk alone, adding flax meal, with chopped grain and the best hay. I have let two calves suck one cow, with good success, and after six weeks of this put on two more, a very good way to make the most of a cow that gives poor milk. When taken off the cow these are fed skim milk and chop, same as the others.

To make a success of dairying in combination with a wheat farm, we should have cows coming in all the year round, so providing milk for the creameries in their season and working for the local market in the winter.

Calves dropped in fall are ready to go to grass in spring, and spring calves are kept in the stable till the flies are gone. In winter they are penned in boxes convenient for inside feeding; fed the same as the cows, but not fat. Next winter they are stabled only at nights and in stormy weather, fed mostly on straw, with enough barley meal to keep them in growing condition. In the spring they are fed good timothy or prairie hay till the grass comes.

Economy of production is essential to success. We must get our cows to milk at least ten months in the year, and, if possible, twelve months after the first calf, breeding them so as to have two or three months rest before the second calf comes. For this I find it best to have heifers calve in late summer or fall, the grass helping much to extend the milking period. Thus you establish a habit that will stay with the cow all her days. For ordinary heifers 28 to 34 months is my preference for the birth of the first calf. If large, or inclined to fatten, breed earlier. The cow for me must be medium-sized, with the biggest possible digestive capacity. The more we can feed the better, if we can get the results into the cream can. Pasturing on the highway and milking any time from 7 to 10 o'clock is not economy. If in threshing time they are only milked when more urgent work will allow, you cannot too soon go out of dairying. It would be more correct to say you have never been in it.

The attendant must have an observant eye, and be always punctual, orderly and kind by natural disposition.

I stable my cows about October 1, or earlier if wet or cold, giving chop and bran at nights. From November 1 they are fed and watered in the stable only, beginning at 5 a. m. with cut oat sheaves, corn, or a mixture of both, all they can eat up clean, along with from 6 to 8 lbs. of feed. Then the milking is done, the cream separated, and the calves fed. After breakfast they are cleaned and watered. At noon hay is fed, and at 5 p. m. the same feed as in the morning, watering after supper. I have deep gutters for manure, and use plenty of bedding. I tie with chains in single stalls, and have a trough for feed and water in front of each cow. Pumping, crushing, feed-cutting and sawing are all done by a windmill.

Some dairymen may object that I use too much barley, and if I had it to buy I would use less. I need hardly tell you that I use, and would recommend others to use, the best pure dairy sire I can buy.

The Packing and Shipping of Butter.

By C. C. Macdonald, Dairy Commissioner.

We may take every precaution to make first-class butter and cheese, but if we do not take every precaution in shipping, we have work gone to waste. A cheese is half made when put in the curing room, and may be spoiled very quickly.

Last year I wrote to the Canadian Jute jute bags for coverings of boxes. (Samples handed around.) They referred me to their agent, from whom I got the price list, and sent it to the different creameries. These sacks are to be stretched over the tub of butter after the butter is packed. This is the proper way butter should be shipped. These square sacks have a gathering string in the top, and it is to be pulled up and tied when the sack is drawn over the box. This leaves a short space at the top, the only place where the box is to be seen. Here the brand of the factory may be placed. Now, if you throw water on a package, and then throw dust on it, there will not be a particle of dirt on the box inside. Yet the sack is of such coarse material that a candle might be blown out through it. That is because, when the water is poured on the bag shrinks up and keeps all dirt and dust out of the package.

There is nothing so objectionable to a buyer as a dirty package. This will keep off dust in hauling to the station and in the cars. The cars are often very filthy. I shipped cheese once in a car which had been used for the transportation of bananas, and the car was full of filth, as is often the case, and I very naturally objected to the station agent, and he offered to throw me out of the door. I went. In case you have a dirty car when you are using these coverings, you can be sure that your package of butter will get to its destination in the condition it left you. It will be clean and tidy.

The cost of these sacks is only 1-9c. per pound of butter in your package. They are made in sizes to fit the regular sizes of butter boxes: 22x20 in. to fit 28 lb. boxes, etc. I am not sure whether at the present time any dealer in the city but Mr. Nicholson handles them, and you can ask him if I get any rake-off.

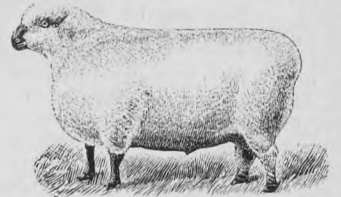
Mr. Scott—I got some thousands of pounds of them and could not sell them.

Mr. Macdonald—I want them to be sold this year. They are sold by the hundred. It may be argued that you will not get any more for butter done up in this way than for the ordinary dirty package. Any man that will say a thing like that is not the kind of a man that is wanted to run a Manitoba creamery. He is not progressive. If a dirty package is put on the market at Montreal, the buyer looks over the lot. There is a package from — Creamery; it is dirty. He will not look at the inside of the box to see what the quality is, but he will pick out the clean looking package.

What I have to say on the packing of butter does not affect the managers directly, but indirectly. They should see that the makers pack the butter properly. We had boxes some time ago that were supposed to hold 56 lbs. net. Some makers could get the 56 lbs. in and others could not. An English buyer expects 56 lbs.,

J. A. S. MACMILLAN

IMPORTER AND BREEDER OF
PURE BRED Shropshire Sheep
Young Rams and Ewes for sale at reasonable prices



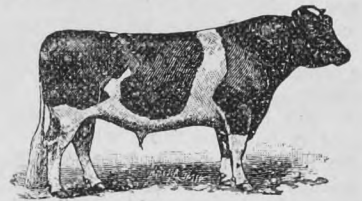
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For sale—that grand young Shire Horse, Nailstone Morning Star, 15741; and noted Hackney, Prince Danegelt, H. S. B. 4937.

2236

Box 483, BRANDON, MAN.

HOLSTEIN BULLS FOR SALE.



One rising 2, out of Sadie Teake's Beauty, sister to Daisy Teake's Queen, price \$10. Three nearly 1 year, price \$30. One 4 months, a beauty, out of Daisy Teake's Queen, price \$50. One 2 weeks, out of Sadie Teake's Beauty, price \$20. Scarcity of feed necessitates selling at these prices.

JAS. GLENNIE,

2232

ORANGE RIDGE, M.N.

JOHN G. BARRON,

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Has for sale six very promising young

SHORTHORN BULLS

by "Topsman," champion of the Winnipeg Indis-trial of 1897. Young females also by same sire. Write early if you want them.



English Berkshires,
Mammoth Bronze Turkeys,
Toulouse Geese,
Light Brahmas,

For
Spring
Delivery

Save heavy express charges. Order now and get the choice. Write for 1898 catalogue.

WM. KITSON,

BURNSIDE, MAN.



WILLIAM KING,

OAKLEY FARM, CARNDUFF, ASSA.

Has for sale two good Shorthorn Bulls, two Berkshire Sows, 8 months old, and two Sows, 4 months old. My stock are all from leading breeders. Correspondence solicited. 2213

REGISTERED LINCOLN SHEEP FOR SALE.



250 Shearling and Ram Lambs, singly or by the carload. Also a choice lot of Ewes of all ages. Breeding Stock imported from the leading flocks of England. Write us before buying elsewhere. Address—

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Railway Station, Lucan, Ont. P.O. Box 35, Lucan, Ont. (2132)



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S. I. THOMPSON, Carberry.
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K. McLEOD, Dugald.

J. R. CRAIG, Meadow Creek.

JAS. BRAY, Longburn.
(Pres. Cattle Breeders' Assn.)
W. S. LISTER, Middlechurch.

S. A. BEDFORD, Brandon.

R. WAUGH, Winnipeg.

WM. RYAN, Ninga.
JAS. GLENNIE, Orange Ridge.

Pure Bred Cattle and Sheep and Swine Breeders' Associations, 1897.

and no more and no less, in the ordinary butter package. The boxes were made with the object in view of holding that amount, half of the English hundred weight. So the 28 and 14 lb. boxes were made on the same scale. Now, the first layer of butter put in the box is the most important. If the maker does not pack his first layer tightly and properly, he will not be able to get the full weight in. For this reason, the makers complained that they could not get 56 lbs. in the boxes. The complaint went to the manufacturers of the boxes, and they made them larger. The consequence was that last year some makers got 56 lbs. into the boxes and some got 60. These boxes should hold more than 56 lbs., or rather 57, so that they will nett 56 at their destination. This will allow fully for shrinkage. Pack the box always from the outside. Before packing is commenced, line with parchment paper. This paper should be at least 50 lbs. to the ream. The best paper used this year was at Shoal Lake and Sarnis. If you use light paper, the buyer goes up to the box and tries to lift the paper. He gets a little piece, and tries again. He gets another piece, and so on. Good paper is used it will peel off clean and leave the butter as fresh looking as the day it was made. When the box has been well lined, put in the first layer. This is the most important point. Pack this layer well into the corners, or the box will not hold the required amount. The box has very sharp corners, and it is difficult to get the butter into them, so that great care must be exercised. If the first layer is packed in O. K., the rest will go. Drive the packer to the outside of the box each time. The centre will be raised. It can be patted down. The object in having great pressure on the outside is to keep out the air cells. The great pressure with the heavy parchment makes it almost impossible for air to get in, as the box itself is very tight, although a fault in the dove-tailing will let in enough air to damage the butter. Make the parchment cling so close to the side of the box that it will be almost a part of the box, and it will be impossible for air to get in and spoil the butter.

The box should be filled more than full, and then cut off smooth. This may be done with a cord. If a wire be used there is danger of it rusting, when it will leave a trace. You can have a new cord every day. Wire is not so easy to get, and it is more expensive.

I have gone into a factory sometimes and asked to see the butter. The maker takes his hammer, axe, saw, chisel, crow-bar, sledge, and gunpowder to open the box. When a buyer goes to see butter, he wants to see what is in the box. In order that this performance may not be gone through every time, the covers should be barely tacked on. It is not much trouble to fasten the covers on securely just before shipping. Then the buyer can see what he is getting.

Question.—There is marked on the box how much it is supposed to contain. Should we raise the figures if they are too low?

Answer.—Yes. For this reason it is necessarily important to have the boxes the correct size. If a buyer sees the figures raised, he naturally doubts them. It is better to have things above board, and have 56 lbs. nett in a box.

The desirability of these regular packages is that the retailer can take the box and turn the butter out on his counter, and cut it up. The customers now want their butter in squares. It is simple enough for the dealer to cut his butter into pound prints. At first the merchants of Montreal would not have these pack-

ages, but now they will pay a slightly higher price to have them than for tubs. In British Columbia they said they would not import butter done up like that. When asked why, they said, "Because it did not look like a butter package." Now they prefer it because they see the desirability of cutting the butter up after they get it.

Pasteurizing the cream makes the butter comparatively dry when it is made. When buying for the British market I came across some cheese with a distinct strawberry flavor, and paid 4c. more for it. Word came from Montreal, "What in the world are you doing?" I went to see the manager, and he asked me what I called "that!" I said, "Strawberry." "Well," he said, "the Englishman wants cheese in a box and strawberries in a basket." So with butter and water. It used to be said that if a tryer was put in the butter, and came out with water on it, the butter was good. But the buyer now wants butter in a box and water in a pail. Pasteurizing leaves no surplus water whatever in the butter.

Butter Making on the Farm.

By F. Lutley, Winnipeg.

DAIRY FARMING.

Farming is a combination of profession, trade, and business. Man, cow, and food is the tripod of successful dairying. The strong points of dairy farming are: 1st. It is a manufacturing business, raw materials are not sold. 2nd. It keeps up the fertility of the soil. 3rd. Waste products are turned into valuable ones. 4th. It may be conducted all the year around.

When selecting a dairy farm we should consider: 1st. Its size. A large farm is not necessary, though I often hear farmers say that 160 acres is not sufficient in Manitoba and that the section should be cut into three parts, about 200 acres each, which would give them sufficient land for pasture, hay and grain. 2nd. Its location near a town, railway, cheese factory, or creamery. 3rd. Its buildings. They should be neat, tasty, and suitable for dairy work.

BUTTER MAKING ON THE FARM.

Butter making on the farm in Manitoba is increasing in quantity, quality, and money value every year. A large amount of butter is made by the farmers who have had no special training, and who have little or no knowledge of the constituents of milk, or of the principles involved in its care or management, so that when their butter reaches the market it meets with such poor demand that the prices the farmers receive are far from being remunerative. The reason is that there is no uniformity in the making or the quality of the butter. Deep rooted ideas are hard to extract.

The first thing to be considered is the proper care of the cows. They must be liberally and regularly fed at all times and treated with kindness. If giving large quantities of milk, they are generally more or less nervous, and if treated roughly will not give as much milk nor milk of as good quality. Dairy cows should have a good warm barn or stable, well ventilated. Yes, lots of them I see are too much so, and the poor cows have humps on their backs like camels; their milk soon dries up, and the owner will be found loafing around the store stove, arguing with some one that dairying does not pay! Any person can argue with you; the misfortune is that he cannot reason.

Salt Rheum

Intense Suffering—Could Not Sleep—Cured by Hood's Sarsaparilla.

"I had salt rheum on my arms, which itched intensely and kept me from sleeping. The skin on my hands would crack open. My friends believed I was suffering from blood poisoning. I decided to take Hood's Sarsaparilla. I did not see any improvement with the first bottle but continued with the medicine and after taking five bottles I was completely cured. My hands are now as smooth as I could wish." A. D. HAGEY, Elroy, Pa.

Hood's Sarsaparilla

Is the best—in fact the One True Blood Purifier. Sold by all druggists. \$1; six for \$5.

Hood's Pills are prompt, efficient and easy in effect. 25 cents.

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LITTLE'S PATENT FLUID
NON-POISONOUS
SHEEP DIP AND CATTLE WASH.

The Original

Non-Poisonous Fluid Dip.

Still the Favorite Dip, as proved by the testimony of our Minister of Agriculture and other large Breeders.

FOR SHEEP.

Kills Ticks, Maggots; Cures Scabs, Heals Old Sores, Wounds, etc., and greatly increases and improves growth of Wool.

CATTLE, HORSES, PIGS, Etc.

Cleanses the skin from all insects, and makes the coat beautifully soft and glossy.

Prevents the attack of Warble Fly.

Heals Saddle Galls, Sore Shoulders, Ulcers, etc. Keeps Animals Free from Infection.

NO DANGER, SAFE, CHEAP AND EFFECTIVE.

BEWARE OF IMITATIONS.

Sold in large tins at **75 Cents**. Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to Breeders, Ranchmen, and others requiring large quantities.

SOLD BY ALL DRUGGISTS. SEND FOR PAMPHLET.

ROBERT WIGHTMAN, Druggist, Owen Sound.

Sole Agent for the Dominion. 1874

BULL FOR SALE.

For Sale.—A 2-year-old pedigree AYRSHIRE BULL, dehorned; good color and a sure breeder. Apply to R. Waugh, Nor'-West Farmer Office, Winnipeg.

F. TORRANCE, VETERINARY SURGEON

Graduate of McGill University. Diseases of animals treated scientifically. Surgical and dental operations a specialty.

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FEED, SUMMER AND WINTER.

Cows in summer should have good pasture, and not be compelled to travel for it. Some farmers turn their cows on the road allowances, which means the cows have to travel miles every day both for water and grass. The more they have to travel in hot weather to get what they require to eat the less milk they will give, and the poorer the quality. Winter feeding is just as important to make it pay. Coarse grains should be sown for fodder, cut green and cured, being more valuable than prairie hay.

A balanced ration should be fed of chopped grain, bran and hay and oil meal. Winter your cows well, so that when the spring comes they will be in condition for dairying. Some farmers let their cows get so poor and weak that it takes half of the summer to gain flesh and strength before they are able to do the work required of them.

WATER.

Impure water or stagnant pools produces impure milk, and is one of the causes of bad flavored butter. See that the cows have good water to drink and all they require.

SALT.

They should have salt every day. They will not eat more salt than is good for them. Keep it in the pasture or where they are milked.

MILKING.

The following are requisite in milking: Kindness, neatness, system, regularity, and milking out clean. Milk is largely made at the time of milking. Milk with dry hands. Do not let the first milk that comes go into the pail. The udder should be brushed and washed with warm water. The milk should be strained at once with a double cheese cloth strainer, which should be removed and washed thoroughly as soon as the straining is done.

The average cow produces about 3,000 pounds of milk, or 125 pounds of butter, yearly. It costs about \$30 to keep a cow for the same time, so her product must be about 300 lbs. of cheese, at 8c, or 150 lbs. of butter, at 16c., to balance her account. The minimum yearly standard for a dairy cow should be 600 lbs. of cheese or 250 lbs. of butter. Cows should be tested regularly for quantity and quality.

BREEDING.

• Select best grade cows and breed them to a pure bred male of milking breed. Breed cows so that there may be some fresh ones each month in the year. The general results of station tests indicate that the Holstein and Ayrshires produce a quart of milk at least cost, and the Jerseys and Guernseys a pound of butter at least cost.

MANAGEMENT.

Calves for the dairy should be removed from their dams shortly after being dropped. The objections to calf-sucking are: 1st. Spoils cow for milking. 2nd. Spoils calf for feeding. 3rd. Cheaper foods than butter fat may be fed. They should be fed the dam's milk for a few days and whole milk for about two weeks; then gradually change to warm, sweet skim milk, with a gruel made of flax seed or meal.

Calf pens should be kept dry and well-bedded. It is best to keep the calves in the stable during the warm weather. The heifer should be kept growing and not be allowed to become fat. She should be bred to drop her first calf at from 2 to 2½ years of age, because, 1st. Her milk producing tendency is promoted. 2nd. She

matures one year earlier, therefore gain of one year of profit. 3rd. Gentler cow.

CARE OF DAIRY UTENSILS.

All vessels brought in contact with the milk—cans, pails and strainers—should be washed with cold water first; then rinsed in scalding water; then put outside to become thoroughly aired. All utensils should be of tin, never of wood.

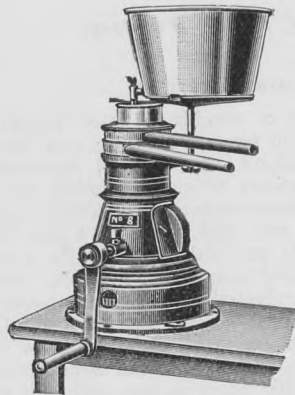
COMPOSITION OF MILK.

Milk when fresh is a thin emulsion of butter fat in a watery solution of albuminous matter, milk-sugar and mineral matter. It is composed of the following substances: Water 87%; fat, 3.5% milk serum, casein, albumen, etc. 4.8%; milk-sugar, 4.5%; ash, .7%. The specific gravity of fresh milk varies from 1.030 to 1.036. The solids, with the exception of fat, tend to increase the specific gravity, while the fat tends to diminish it. The best definition of specific gravity is the density. When the milk is cold its density is greater, or, in other words, it is thicker.

CREAMING METHODS.

There are two methods of creaming—the shallow pans or deep cans, and the

separator—the natural and the mechanical. The natural methods consist of allowing the fat globules to rise to the top of the milk by the power of gravitation. The mechanical method is that of centrifugal force. If the milk be left at rest the fat globules will rise to the top of the milk by the power of gravitation. Deep-setting cans are the best, set in ice water with the milk at a temperature of from 90° to 95°. The mechanical method of centrifugal force attains a like result. The bowl revolves very rapidly, thus the heavier parts of the milk will be forced outwards against the inner side of the bowl, with sufficient pressure to push the lighter parts, the cream, towards the centre of revolution. The steady inflow of milk causes a continual outflow, thus the fat globules are separated from the milk serum. These methods both depend on the fact that the cream is the lighter portion of the milk and travels in a direction opposite to that in which the force is applied. Under favorable conditions there is not much difference in the closeness of creaming between the shallow pan and the deep can. The separator, if properly handled, will ordinarily recover 25%



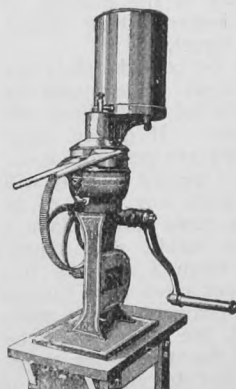
them for years, as published in our 1898 Catalogue—sent free on receipt of address.

Call here when in town and see our new Gasoline Engine at work. Runs a Separator and Churn; starts and stops by opening a valve; requires no attendant and costs but 3 cents per hour for gasoline, which we supply.

This year we have discarded the old style Churn-Stand that works loose in a week, gets squeegee and waltzes all over the floor. Examine this Churn-Stand. It is light, yet strong as a saw-horse, and so well braced it can never get loose at the joints. Then it is fitted with friction-rollers for the gudgeons to run on, like what you may have seen on a grindstone, and turns with half the exertion needed on the other kind of stand.

CORRESPONDENCE SOLICITED.

R. A. LISTER & CO., LTD.,
232 AND 234 KING STREET, WINNIPEG
AND
18 ST. MAURICE ST., MONTREAL.



Also DAIRY SUPPLIES and PRODUCE. A permanent market is insured to producers of fresh and fine Butter. Send me a trial shipment.

...The...

Alexandra

Cream Separator

Increases the yield of Butter by 25 per cent. on an average the year round, and the largest dealers in Winnipeg are advertising that they are prepared to pay higher prices for Separator Butter. Education is spreading and they are beginning to appreciate the superior excellence of Butter made by the Separator process.

Competing agents, to make commission, will tell you other machines are as good as THE ALEXANDRA. Probably they may represent them as better. Do not be misled. Judge THE ALEXANDRA by the victories it has won in the severest tests under the eye of expert mechanics and by the testimony of scores who have used



SOMETHING NEW!

A CREAM SEPARATOR

The SIMPLEST, CHEAPEST and BEST.

All hand machines are distanced.
Agents wanted everywhere.

ADDRESS: **S. M. Barre,**

238 AND 240 KING STREET, WINNIPEG, MANITOBA.
Sole Agents for Manitoba, N.W.T. and British Columbia.

more cream than either of the natural methods.

In comparing these methods we should consider the per cent. of fat left in the skim milk and buttermilk, the condition of the skim milk, the cost of the outfit, and the expense of operating.

Shallow pan setting requires pure atmosphere, large space, long time of setting (36 to 48 hours), even temperature (50° to 60°), setting depth of 2½ to 4 inches, removal of cream while sweet. Some of its disadvantages are: The milk is exposed very largely to the atmosphere, and likely to be contaminated; the cream and milk are likely to be sour before skimming; the skimming is not complete.

Deep setting requires cans 8½ inches in diameter and 2 feet long, plentiful supply of cold water at 45°, or water and ice; a tank in which to set the cans, cooling to 45° before skimming, to be left in water 12 hours in summer and 24 to 36 in winter.

Some of the advantages of deep setting over the shallow pan are: The milk is protected from the air, cream and skim milk usually sweet, less room required, less labor, if properly handled, more butter obtained. Some of its disadvantages are: The necessity of ice or of cold water, labor in creaming large quantities of milk, expense of heating skim milk for 48 hours, loss of cream and butter, as compared with separator.

The separator method requires a machine, strong, simple, safe, and easy working, steady motion, small power, thorough skimmer, easy means of regulating flow of milk and cream, easily cleaned, cheap, and durable; a person who understands how to handle them properly. The completeness of the skimming depends upon the machine being properly made and set up dead level upon a solid foundation. Use only the best oil. Keep the speed, feed, and temperature even. When the separator is used for skimming, the milk should be strained and put through the separator as soon as it is drawn from the cows. The temperature should be about 87° to get best results. When starting the separator, see that the bearings are clean and well oiled; then get the desired speed, then fill the bowl with water at 90°, and when the water begins to run from the milk spout start the flow of milk. When the milk is all through, fill the bowl again with warm water to wash out all the milk and cream. The separator must be cleaned out every time it is used, especially the bowl. The advantages are: More and better butter, sweet skim milk, and so more valuable for feeding purposes, fewer utensils to keep clean, and less work.

TREATMENT OF CREAM—PASTEURIZING.

After the skimming is done the cream should be heated to a temperature of 155°, and cooled as quickly as possible to 40°, whether separator or gravity cream. This gives the butter a waxy texture. Heating and cooling the cream purifies it. Set the can containing the cream into a larger one containing boiling water on the stove. Stir the cream slowly, so that all will be heated evenly. Hold the thermometer in the cream while heating or cooling. To cool cream, put into ice water and stir until 40° is reached. To ripen this use ten per cent. of starter.

SETTING OF CREAM.

When enough cream is produced for a churning, it is ripened and soured. To sour cream, heat it to 60° or 70° Fahr., according to the temperature of the room. If the room can be kept steady at 60°, heat to 60° only, but if the temperature falls during the night, heat to 70°. If the cream is sweet when heated, use five per

cent. of starter. I would rather use buttermilk, if pure and free from any odors foreign to itself, as it can be more fully depended on. If the buttermilk becomes tainted, make starter from the milk of one or two cows that you know to be in good health. Skim all the cream off, or run it through the separator, heat it to 155°, then cool it to 40°, keeping the milk covered while cooling. Leave the milk at 40° for two hours. Then heat to 80°. Then set in a warm place, about 80°, and leave it for 24 hours, when it will be found thick and sour. Before using strain through the dipper several times, and use five per cent. to the cream. If the cream is slightly sour when heated to 60°, no starter is needed, as cream should be churned at its first acidity or containing from 5.10 to 8.10 of 1 per cent. of acid. Cream should have a glossy appearance and the consistency of white paint. Very thick cream is hard to churn. It adheres to the side of the churn, and is washed out with the buttermilk, causing considerable loss of fat. The cream should all be ripened alike. No sweet cream should be added within 12 hours of churning. Sour cream churns, if properly ripened, in about 30 minutes. It is possible to churn sweet cream, but it takes one hour and over, and must be put in the churn at 40°, while sour cream is put in at 58° to 60°. If sour and sweet cream be mixed and churned at once, the sour cream will churn in half the time in which the sweet cream will, and the latter will be run out of the churn in the form of buttermilk, so that a large portion of the butter fat of the sweet cream is lost in the buttermilk. The cream should be stirred several times during the ripening period, 12 hours being sufficient time to ripen the cream for churning. Churn often, as the flavor is likely to go off by long standing. The cream-ripening can should always be kept tightly covered when containing cream, removing the cover only when stirring or adding cream.

PREPARING CREAM FOR CHURN.

The proper temperature for churning is from 58° to 60°, in spring, summer, and autumn, and 60° to 64° in winter. Get a reliable thermometer. This is most important, as you are working in the dark

without one, to give you the correct temperature. The best way of heating the cream, if too cold, is by placing the cream can in hot water; stir gently until the right degree for churning.

Thoroughly scald the churn before putting cream into it. After revolving churn two or three times let the steam out, repeating several times. Then revolve rapidly. Then cool rapidly with cold water. All wooden utensils should be scalded and put in ice water before churning, especially the print moulds. They will work or print better if kept in brine.

Strain the cream before putting it in the churn. It will churn easier, and it helps to overcome the difficulty of mottled or white specks in the butter. If color is used, only use enough to give a pale straw color. ¾ drams is enough to color 100 pounds of cream in winter. Always buy the best color. Never use old color. It should be free from sediment. Butter color acts on the butter fat only. If you forget to put in the color, and have been churning some time, do not put any color in the cream, as it causes high colored spots.

Sixty-five revolutions a minute is the speed for a barrel churn. After the churn has made a few revolutions, let out the gas or the churn will burst, repeating three or more times. Then turn steadily until the granules are about the size of clover seed. Then, if the temperature is above 60°, cool to 58°, with ice water. Then finish churning until the granules are about the size of wheat. Run the buttermilk off through a hair sieve and drain for 15 minutes. Wash the granules with water at 54°, equal in quantity to the buttermilk. Revolve the churn rapidly for about 15 revolutions. Run this water off and use as much water at 45° for second washing. Two washings are sufficient. Then drain. Weigh the butter to ascertain how much salt to use. About one ounce to the pound is the standard, but suit the customer in salt, color, and style of package.

WORKING BUTTER,

Butter should always be worked twice, being careful not to overwork it. Work it the first time sufficient to work the salt in. Then set aside for four hours. Then

“MY WIFE’S LIFE.”

How I was the means of saving it.

When the lungs are attacked and the symptoms of consumption appear, then begins the struggle between affection and that destroying disease which slays its thousands annually. It is a happy issue to the struggle when disease is conquered and health restored. Such an issue does not always end the struggle, but it did in the case of Mr. K. Morris, Memphis, Tenn., who saw his wife wasting and weakening and physicians helpless, and then suggested the simple remedy that wrought the cure. He tells the story thus:

“Seven years ago, my wife had a severe attack of lung trouble which the physicians pronounced consumption. The cough was extremely distressing, especially at night, and was frequently attended with the spitting of blood. The doctors being unable to help her, I induced her to try Dr. Ayer’s Cherry Pectoral and was surprised at the great relief it gave. Before using one whole bottle she was cured, so that now she is strong and quite healthy. That this medicine saved my wife’s life I have not the least doubt. I always keep Dr. Ayer’s Cherry Pectoral in the house. Whenever any of my family have a cold or cough we use it, and are

promptly cured.”—K. MORRIS, Memphis, Tenn.

The question: “Is consumption curable?” is still debated, and still debatable. It is easy to say that this was not a case of consumption. Yet the physicians said it was. They should know. As a matter of fact, Dr. Ayer’s Cherry Pectoral has wrought so many similar cures that it seems to argue the curableness of consumption, in its earlier stages, by the use of this remedy. There is no better medicine for pulmonary troubles than Dr. Ayer’s Cherry Pectoral. It gives relief in cases of Asthma and Bronchitis, where relief has been heretofore unattainable. It promptly cures Coughs and Colds, La Grippe, and all affections of the throat and lungs. Anyone who is sick is invited to write to the Doctor who is at the head of the staff of our newly organized Free Medical Advice department. The best medical advice, on all diseases, without reference to their curability by Dr. Ayer’s medicines. Dr. Ayer’s Curebook sent free, on request. Address, J. C. Ayer Co., Lowell, Mass.

work it just enough to make the color uniform and not destroy the grain. The working should be done by pressure only, not friction, or you will have butter like salve. The best guide is to cut through the butter with the spade. If the color is even, the body close and firm, with no white streaks, it is worked enough. Good butter, when broken apart will show the grain like broken steel. Butter should be worked at 54°, with the temperature of the room the same.

PACKING BUTTER,

The best butter packages for the farm are the tub and the one-pound print. In packing butter into the tub, first line the tub with the best parchment paper. Put the circular sheet on the bottom, then the side lining, with $\frac{1}{2}$ inch flap on the bottom and $\frac{1}{2}$ inch on the top to cover the butter when the tub is full. Scald the tubs the day before and soak in brine for 24 hours. In packing butter use a packer made for the purpose, keeping the sides well packed, the layer level, about three pounds at a time. Then smooth the top when full or within $\frac{1}{4}$ inch of the top and lay side lining down, and put circle on top, covering with a paste of salt and water. If butter is to be held on the farm, pour brine on every week. This brine should be strong enough to float an egg.

In printing, push the print into the butter on the worker and fill until the print is full, with no holes on the sides of the prints. Soak the papers in cold water, and wrap and fold the ends smoothly over the butter. Give good weight.

BUTTER MAKING ON THE FARM.

Make sure the cow is giving you a profit instead of a loss.

Get a Babcock milk tester and test every cow.

Get a cream separator. Don't feed butter fat.

Get a reputation for making good butter and keep it.

Get a reliable thermometer for ascertaining temperatures.

Get a barrel churn and lever butter-worker.

Get a cream-ripening can and cream strainer.

Let every one ascertain his special calling and business, and then stick to it, if he would succeed.

Methods, not climate,

Milk, not water,

Care and food,

Are the factors which produce good results.

Dairymen should constantly bear in mind that large eaters are large producers, that the value of a dairy cow consists in the ability to consume food at a profit, or, in other words, her ability to convert food into milk in a manner that will leave a profit to her owner, after paying for food consumed and labor used. Unless you weigh and test each cow's milk, and keep yourself posted on just what she is doing, you can never know if she is profitable for you to keep in your herd or not. It is also very important to know the amount and value of the food consumed by each cow. Because one cow will give more milk or will make more butter than another, is no reason that she is the best and most profitable of the two, for she may be consuming over and above the other cow more than enough food to offset the difference in her production. On the other side, it is also true that small eaters are not necessarily the profitable ones; in fact, it is generally just the opposite—large eaters, large producers.

It remains only for you to study your cows and become acquainted with their

individualities and wants, and, in so doing, you will be able to judge of their value in your dairy, putting you in a position to discard the unprofitable ones.

Government Creameries in the West.

Some time ago the patrons of the Whitewood creamery made a vigorous kick against the delay on the part of the department at Ottawa in paying up the balance on their last year's contributions to the creamery there. To this Commissioner Robertson replied, on Feb. 16th, saying he was then busy signing cheques for that purpose. It turns out that the cost to the patrons was rather less than 4 cents a pound, the government acting as sales agent free of cost. Mr. Robertson very pertinently writes:—"I shall be sorry if any of the patrons withdraw their support from the creamery, owing to the fact that those who made butter at home may have been able to realize higher prices than they obtained net, but if any of the patrons think they can do better by private dairying, then they must be left to buy their experience for themselves. The fact that the creameries nearly doubled the price of dairy butter in the Territories last summer is perhaps one of the best evidences that the creameries were of great service to the whole community where they were situated."



A Well-Known Westerner.

Glen Campbell is a native of this country, having been born at Fort Pelly, N. W. T., in 1863. His father, Robert Campbell, ex-Chief Factor, Hudson's Bay Co., was a man widely known and respected. In 1869 Glen went to Scotland, where he attended the Glasgow Academy, and later on Merchiston Castle school, Edinburgh. In 1880 he came out to this country again, and began ranching in a small way. In 1882 he imported a carload of Highland cattle from Scotland, but through time found them more adapted for the range than for Manitoba farms. In 1885 he went out west and joined Boulton's scouts as a private, and on the death of Ted Brown at Batoche, was promoted to the captaincy of a troop, and at the end of the rebellion retired with the rank of captain. In the fall of 1885 he went on a hunting expedition to Gilbert Plains, then unknown, except to Indians, and located then his present ranche, buying Gilbert's house from him. Since then he has farmed and ranched more or less in that district. He has for the last few years been buying cattle for the old country markets, and shipped a year ago last fall the first cattle over the Dauphin railway. He leaves for the Yukon this month.

BIRTLESIDE FARM, BIRTLE, MAN.

Lieut.-General Sir Henry C. Wilkinson, having rented his farm, has decided to offer at

PUBLIC AUCTION,
on the premises,

ON 23rd MARCH NEXT,
the whole of his fine lot of

THOROUGHbred CLYDESDALES

and his fine herd of thoroughbred

SHORTHORN CATTLE

and other animals, in all 7 Clydesdale registered and 12 heavy draught horses, 24 head of Shorthorns registered, 25 grades, 7 pure bred Shropshire Ewes pure bred Berkshire Sows and a very extensive and complete list of Farm Machinery and Implements.

This sale offers most excellent opportunities to parties wishing to add to and improve their herds of cattle as the animals are mostly young and in good healthy condition. Certificates of registration produced at time of sale.

For further particulars apply to

F. A. WILCOCKS,

Auctioneer,

Birtle, Man.

H. WHITCHER,

Farm Manager,

Birtle, Man.

2248

CANADIAN PACIFIC RAILWAY.

KLONDIKE.

Write for pamphlet descriptive of the routes to the Yukon country and sailing dates, rates, etc.

SAILINGS FOR MARCH.

Danube	March 8
Victorian	" 9
Ning Chow	" 10
Cottage City	" 11
Queen	" 12
Islander	" 15
Thistle	" 17
Victorian	" 19
Danube	" 22
Queen	" 24

All agents can ticket through, which will include meals and berths.

Apply to nearest C.P.R. agent, or address

ROBERT KERR,

Traffic Manager,

Winnipeg.

PROVINCIAL LAND SURVEYORS' ASSOCIATION.

Under authority of sections 39, 40 and 41, Cap. 121, R.S.M., the following only are entitled to practice as Provincial Land Surveyors in Manitoba:

Aldous, M.,	Winnipeg	McPhillips, R. C.,	Winnipeg
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Doupe, Joseph,	"	McFadden, M.,	Nee-pawa.
Doupe, J. L.,	"	Rombough, M.B.,	Morden.
Ducker, W. A.,	"	Vaughan, L. S.,	Selkirk, W.
Harris, J. W.,	"		
Lawe, Henry,	"		

By order,

J. W. HARRIS, Secretary,
P. L. S. Association.

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While our columns are always open for the discussion of any relevant subject, we do not necessarily inhore the opinions of all contributors. Correspondents will kindly write on one side of the sheet only and in every case give the name—not necessarily for publication, but as a guarantee of good faith. All correspondence will be subject to revision.

Subscriber, Nelson:—Our veterinary list in this issue contains all the Vets. entitled to practice in this province.

T. N. Willing, Olds, Alta., sends a sample of his wheat (Northern), and asks if its softness is due to climate or soil or rank growth.

Answer—All three are to blame, and repeated cropping can only modify the defect to a limited extent. Don't plow deep this year. It may help you some, though it is as likely to get worse.

Smutty Oats.

James Montgomery, Lippentott, writes:—"Some two years ago my neighbor sowed some 20 acres of oats simply sprinkled with bluestone, and the result was a crop of very smutty oats, fully one-third being lost from this cause. He had, however, two small pieces of land (6 acres) upon which his seed grew the previous year, and a very good volunteer crop was allowed to mature. This crop proved to be entirely free from smut. Can you account for this, or can any conclusion be drawn that would help us in future operations?"

Answer—Like Lord Dundreary, we think there are some things that "no fellow can understand." We are confident the bluestone did that seed no harm, and equally certain it did very little good. Oats must be steeped 15 minutes. (See Bedford in this issue on same subject.) You assume that the bluestone did the mischief, which we greatly doubt, almost deny. We assume that the seed was put in bags where smutty oats had been, or on land where such oats had been grown. Late sowing may aggravate smut, but it must come from smut spores somewhere, even if you cannot trace the "where."

Land Roller.

Jas. Lawley, Brandon, writes:—"Can I get any information through the readers of The Farmer as to whether there is a land roller of the Cambridge pattern, or rimmed roller, as they have them in England, and if so, are they suitable for this country? Some of my land is light, and by using an ordinary roller it leaves it in bad shape for the winds, and at the same time it does not seem to solidify the land. Will the Cambridge roller be too heavy?"

Answer—We have been told there is a Cambridge somewhere southwest of Souris. Can any reader in that district tell us more about it and the results that have followed its use? Meantime it should be understood that the occasions on which it is safe to use a roller, in spring especially, are very rare, indeed. In places where it suits to roll at all the Cambridge ought to be better than the ordinary roller.

A Tangle of Weeds.

A Red Deer inquirer writes.—"Two and a half years ago I broke some six acres of land, but for reasons that need

not be explained, nothing has been done to the land since. The consequence is as you may imagine, the field is now in a horrible state with weeds. Now, I am anxious for your advice as to the best way to get the land into such shape as to render it reasonably hopeful that one could sow Austrian Brome grass with a fair chance of success. The land is not heavy. The two weeds that predominate are sage and couch grass. The sage is so bushy that I do not think it would be possible to plow it under, and growing so thickly that in some places you can hardly see the land between the bushes. Plowing would not get rid of the couch grass, either, I fear.

Answer—If Inquirer is prepared to do the necessary work, it is not so difficult to advise him, but it is very probable that he would be wiser to start on a new plot of ground. Get a scrub scythe, and mow down the sage brush, then plow and harrow till the bulk of the roots are cleared out, and in or near the end of May sow your Brome seed, harrowing lightly. If the wild rye grass grows so profusely you can make that into hay without any Brome. It is quite likely the Brome will hold its own against the other, and you will have half a crop of each. Of course, the seed from such a plot would never be marketable. You need not think to kill the native grass before sowing the other; that is impossible.

Lumpy Jaw Cured.

A subscriber, J. C. Johnston, Grenfell, Assa., writes:—"I have the pleasure of seeing a case of the effect of Fleming's cure with one of my neighbors on a steer one year old. He was a bad case. This man sent for a bottle of Fleming's cure, and applied one-half according to directions, and has a complete cure. The steer is now two years old."

Building.

John Linkham, Regina, writes: "Re item in the February number of your paper, I beg to state I wish to stable ten horses and store 3,000 bushels of grain."

Answer.—For a ten-horse stable it would be well to have space enough for a loose box, say 10 feet, and a harness place on the other side of the passage. A house 30 feet wide would do, and allowing 5 feet for each horse, you want 25 plus 10 ft. long=35 ft. long and 30 wide. There may be differences in detail as to sizes of stalls.

Native Rye Grass vs. Brome.

Kenneth McIvor, Virden, writes:—"In your June, July and February issues you make statements re grasses that differ widely from the Government experimental farms teachings. As some of your readers may not have followed the results, the following statements may prove interesting. Your statements were, in June, referring to native rye grass and Brome grass, the native followed close to the foreigner as a free-growing sort. In July, in open field and no favor, the Brome grass easily leads the procession. In February, while advising a Springfield subscriber which grass to sow, you say of Brome: 'It will produce as much to the acre as other sorts.' The experimental farm reports show that on the Brandon farm from '91 to '96 (omitting '92, when, owing to dry season, the yield from Brome was light, also omitting rye grass lightest yield), five seasons the rye grass gave over one ton per season average more than Brome, putting it in cash

at \$5 per ton, \$13 to \$8. Again, applying the chemist's test, as shown by Bulletin No. 19, Central Experimental Farm, one acre of rye grass contains a fraction more of albuminoids (flesh formers and milk producers) than two of Brome. By your December issue I see that on the Indian Head Farm the difference was even more marked.

Bacon Curing.

A Western reader writes:—"Would you be good enough to furnish me the following information re the best process of curing bacon for the Arctic region (Klondyke), and also the plans of a smoke-house that a farmer could put up himself on a farm, or any other information that you may have on the subject? I know that your valuable paper has always got the very best information obtainable on subjects of this kind that interests a farmer. I want to cure my own pork, and I want to cure it in the best way obtainable."

Note.—Our space is very much overcrowded, and we refer this inquirer to Page 221 of The Farmer for October, 1896. No skill of ours will, by mere verbal description, qualify any man to cure bacon in the very best way. To learn that is the business of a lifetime.

Volunteer Crops.

Jas. Graham, Fort Qu'Appelle, Assa., writes:—"Will you kindly answer the following questions in the next issue of your valuable paper, viz.: (1) Does burning the stubble deteriorate the value of the land?"

Answer.—Certainly not; the main trouble is to get it to burn when we want it.

(2) In your February issue, Mr. S. A. Bedford gives a difference of 4 bushels 40 pounds in favor of unburnt stubble. Can you explain how it is that all the crops sowed on unburnt stubble in the Qu'Appelle district proved next to a failure, and wheat sowed on burnt stubble was a fair crop?

Answer.—Mr. Bedford says nothing of the sort. He shows 2 bushels more where the land was disked. One example is no rule.

(3) As a good many like myself are short of water during the winter, can you tell if scraping out a slough 3 or 4 feet deep would be of any use, or can you think of a better plan?

Answer.—That depends on the quality of the bottom. Scrape a little bit out this year and test it.

(4) Is there anything gained by harrowing after seeding on clean land?

Answer.—Yes, if the harrowing is not done too early, so as to let the winds carry off the mould, or so late as to injure the grain. The fine dust acts as a mulch and prevents the soil drying out.

(5) On Page 159, May, '97, in answer to T. G., Abernethy, you recommend sowing barley to kill couch grass. How about a volunteer crop coming up with the wheat in the next crop? I know a party that left a field that had a crop of barley on it the year previous, to summer fallow it, and it yielded between 30 and 40 bushels to the acre. Another man seeded oats after barley, and no one could tell what he sowed.

Answer.—Such a thing is possible, but much depends on the management. Practical farmers are telling us every month about sowing barley before wheat and oats. How was the harvesting of these crops done.

Co-Operation.

A reader at Lethbridge, who says he knows very little of practical farming, and depends very much on The Farmer and similar public caterers for light on any farming he does, is not quite satisfied with the opinions on the subject of co-operation, as given in last month's issue. Our opinions may be wrong, nobody is infallible, but our facts are incontestable, and if our friend can get comfort out of them or get around them, we shall not feel badly. As the subject has again come up, it may interest those who read that article to learn that the Army and Navy directors have since issued a circular to their shareholders and the public trying to explain away the frauds of which they had been previously and publicly convicted. Their plea is that the salesmen acted contrary to instructions, and therefore the directors were not to blame. It was proven at the trial that the salesmen got a bonus on every American ham they sold above its proper value. It was one strong ground of complaint by the prosecutors that none of the managers or salesmen were put up to offer evidence for the defence. Then was the proper stage at which to prove innocence, and it is quite fair to assume that they did not venture to put their witnesses under a cross-examination that was more likely to injure than to exonerate them. Their business catalogues offered "Anglo-American Hams at 74s. per cwt."; and "Irish Junior Brand (B. C.) at 94s. per cwt.," the intent being to show that these Irish hams had been fed in Ireland, or B. C., wherever that is, or some equally mysterious, but always fraudulent purpose, though well known by the seller as American. We are fortunate in having west of Beulah a co-operative farming company, composed of men who have confidence in each other's capacity and integrity, and shall not fail to look in on their operations, for the success of which they have our best wishes.

Clydesdales.

"A Farmer" asks the following questions:—"Will you please name half a dozen of the best Clyde stallions that are dead, and half a dozen of the best living? Also the name of the horse that is supposed to be, or was, the best Clyde that has ever existed. I have heard that a blend of Prince of Wales (673) and Darnley blood has been most successful. Is it so, or is there any better cross?"

Note.—This is not the kind of farming questions there is much to be learned by asking or answering. Taking the number of grand horses descended from him, it is not far wrong to claim for Prince of Wales the first place. Yet some of his best stock was from Darnley mares, and somebody will be ready to claim the place for Darnley in preference. There could never be a sounder horse than Prince of Wales, which died when 22½ years old of some very slight accident. General, the sire of Prince of Wales, was a grand horse; so was his grand-sire, Sir Walter Scott. Lochfergus Champion was another great horse of his day. So was Lord Erskine. Perhaps one of the very best of the old set of living horses is Cairnbrogie's Stamp, whose breeder, John Marr, has just died. He was by Lord Erskine. His dam, Young Darling, was daughter of Old Darling, dam of the Prince of Wales, and she again by Samson, grand-sire of Darnley. For ten years Topsman was a sensational horse. The reputation of any stallion as a sire is a good deal dependent on the character of the mares stunted to him, and the Prince in his middle period left nothing very

wonderful. But take his old age gets, Prince of Albion, Prince of Kyle, Prince Alexander, Prince of Carruchan, and Handsome Prince, all out of Darnley mares, and Prince Robert, which was not, and it would not be easy to find any Darnley lot equal. But McGregor, Darnley's greatest son, has a record all his own. The horses of the hour, Gay City, Hiawatha, Chastelard, and Gartley Prince are worthy representatives of the breed. Mr. McNeillage, who ought to know, puts down the Prince of Wales family as more showy in the ring, the Darnleys as the truer draft type. We have gone further than we intended, and perhaps not given a direct answer to any one question, but that is of no consequence, when the questions are so very speculative. Not always are the best sires brought in the show ring, and "fitting for show" is not in their favor. The highest priced has been Prince of Albion, \$15,000, and at random he, Sir Everard and Prince of Carruchan may be put at the top of the older set of Clydes now living.

Support Home Industries.

I. O. Mellor, Minnedosa, writes:—"I am pleased to notice that I have been awarded the prize in your 'Barn Plan Competition,' as it is a subject I have been working out these winter evenings, as I intend soon to erect a large stone stable, 90x45 inside, to be in a bank, and to hold horses and cattle, and have a large straw and hay mow above, as I intend to keep my granary away from stables. I have also been watching your paper for hints to cull out of other people's plans given there, and thus I hope to have the best conveniently arranged stable, and yet use every available foot of space, as I have over fifty head of horses and cattle now, and expect fifteen calves this spring. I like your paper very much, and think no farmer in Manitoba can afford to be without it, if he wishes to get on. You advocate many good things in your paper, but there is one thing I would like to see you advocate more than any other, and that is an idea I have and always practice, and I feel sure, if every body in Manitoba would do the same, it would bring about great results. That is this: Every paper, or nail, or axe, or machine, or anything they use, or eat, or wear, or enjoy, they would just take the trouble to see that it is made in Canada, or, better still, in Manitoba. Every little helps, and the more goods we use the more the manufacturer has to make, and thus the more he makes, the cheaper he can do it, and thus the better for the user. It would also make a large home market for the farmer's stuff, wheat, cattle, butter and eggs, etc.; in fact, be better all round, as the more work, the more people needed and the more good stuff used and eaten, thus helping each other, we all help ourselves a great deal more than we could ever imagine, and thus, as in union, there is strength, and every man, woman and child, by doing this little thing, viz., using nothing but Canadian goods, has a part in building up this great country, instead of helping to build at some other place. Your paper is a proof that I am right, for every year you get more subscribers. Thus you are able to improve it, which you do, and thus we each get better value for our money, for the paper does not cost us any more. I claim it would be in all things alike. We farmers would, by doing this, cause ourselves to get better value for our hard earned money. It is about six years since I first took your paper, and I shall continue to take it as long as I am here."

TO CURE A COLD IN ONE DAY,
Take Laxative Bromo-Quinine Tablets. All Drug-
gists refund the money if it fails to cure. 25c. [2250]

HONEST HELP FREE!

AN OLD CLERGYMAN, deploring the fact that so many men are being imposed upon by unscrupulous quacks, is willing to inform any man who is weak and nervous or suffering from various effects of errors or excesses, how to obtain a perfect cure. Having nothing to sell, he asks for no money, but is desirous for humanity's sake to help the unfortunate to regain their health and happiness. Perfect secrecy assured. Address, with stamp, REV. A. H. MACFARLANE, FRANKTOWN, ONTARIO. [2249]

THE most beautiful colored picture of all wild fur-bearing animals of our country (46), with photo engraving of their skins. Nothing like them in the world. Worth \$1.00; sent postpaid for 6 red stamps. Market report and much valuable information sent free

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2254

MINNEAPOLIS, MINN.

NORTHERN PACIFIC RAILWAY
TIME TABLE.

MAIN LINE.

Arr.	Arr.		Lv.	Lv.
11 00a	1 30p	Winnipeg	1 05p	9 40p
7 55	12 01a	Morris	2 32	12 01
5 15	11 09	Emerson	3 23	2 45
4 15	10 55	Pembina	3 37	4 15
10 20p	7 30	Grand Forks	7 05	7 05a
1 15	4 05	Winnipeg Junc	10 45	10 40p
	7 30	Duluth	8 00a	
	8 30	Minneapolis	6 40	
	8 00	St. Paul	7 15	
	10 30	Chicago	9 35	

MORRIS-BRANDON BRANCH.

Mon., Wed., Fri. Tues. Thur. Sat.

10 30 am	D . . .	Winnipeg	A	4 00 pm
12 15 pm	D . . .	Morris	A	2 20
1 18		Roland		1 23
1 36		Rosebank		1 07
1 50		Miami		12 53
2 25		Altamont		12 21
2 43		Somersett		12 03
3 40		Greenway		11 10 am
3 55		Baldur		10 56
4 19		Belmont		10 35
4 37		Hilton		10 17
5 00		Wawanesa		9 55
5 23		Rounthwaite		9 34
6 00 pm	A . . .	Brandon	D	9 00 am

Taking effect Tuesday, Dec. 7th. Direct connection at Morris with train No. 103, westbound, and train No. 104 eastbound.

PORTAGE LA PRAIRIE BRANCH.

Lv.		Arr.
4.45 p.m.	Winnipeg	12.35 p.m.
7.30 p.m.	Portage la Prairie	9.30 a.m.

C. S. FEE, Gen. Pass. Agt., St. Paul. H. SWINFORD, Gen. Agt., Winnipeg.



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Man.

Mr. Mellor also says that he and his neighbors approve of our publishing the lists of impounded stock. He thinks a good sized Hackney stallion would find good patronage in the district west and northwest of Minnedosa.

Work for the Galicians.

Paul Wood, Dominion agent for the Galicians, Winnipegosis, writes:—"You will do me a great favor by inserting the following in your paper: 'The Galicians who have recently settled in this Province are nearly all expert spinners and weavers, both of wool and vegetable materials. By taking advantage of this fact farmers and sheepmen could get their wool manufactured at a very cheap rate. The manufacturer at present gives 10c. per lb. for raw wool, and sells yarn at 50c. per lb. The Galicians spin wool at from 15c. to 20c. per lb. This would constitute a saving of 100 per cent. or more. Mr. Paul Wood is ready to receive wool shipped to Sifton, Man., (L. M. R. & C. Co.) and have it spun by these people, and will answer any inquiries addressed to Mossy River P. O., Man. Employment profitable to both parties would thus be procured for a large number of these people, who both need and deserve it.'

Note.—We are glad to help circulate this information, but fear it is too late for this season. Perhaps these women would be glad of the work at any season.

Mr. Bedford Corrected.

A western settler, Osler, Sask., writes:—"In your January issue I noticed an article from Mr. Bedford, of Brandon Experimental Farm, much of which has a lot of valuable advice to farmers, but still he will lead many of our new farmers astray, as he appears to speak as though his experience was limited regarding many kinds of prairie grass and soils. Nor does he appear to remember that many of our dry seasons will not bear him out regarding back-setting, early and late breaking. In order to try and guide our new farmers, and those who are unable to purchase the necessary implements for our prairie farming, with your leave, Mr. Editor, I will occupy a small portion of your valuable space with a few points omitted by Mr. Bedford.

First, breaking too deep. This should be considered from various standpoints—the kind of grass to be dealt with, the kind of soil, the climate, and the rainfall during the breaking season. If you have a wiry grass, such as often grows on loamy clay, and then we have a wiry grass that grows on sandy flats, these cannot be dealt with successfully as Mr. Bedford advises. The month of June is admitted by all as our breaking season; therefore, none of those tough grasses will be rotted in time for back-setting before harvest, especially when our rainfall is very limited at this season, and will not wet through the sod sufficient to cause the sod to heat and sweat, which is essential to the rotting of any sod. Then we have a short grass very plentiful in the Northwest known as the Buffalo grass, which has a very tender root, and does not root down more than two or three inches. This class of grasses can be readily broken from four to five inches deep any time during June, or early in July, and will harrow down (after having had a couple of strokes of a disk or spade harrow) in good shape for seed, and will produce better results than back-setting will do in any soil, except in a wet season. This has been my experience after twenty years of farming life on U. S. A. and Canadian prairies. On almost any of our Northwest prairies I would recommend break-

ing four and one-half inches, and, instead of back-setting, use the disk or some other good harrow. Get the top well pulverized and pressed down with a good roller, which I believe to be much cheaper and better than back-setting, except where the sod is well rotted. Use upon this a good drill. I would prefer a shoe drill, which will place the seed down where the ground is solid.

Mr. Bedford further objects to unrotted manure for roots; but I have taken manure directly from the stable to the proposed root plot during the winter on a stone boat, and made after the same form, except that I round the front corners to prevent it from catching on the door-jamb on going out and in. From this I spread it out quite thickly upon the field. This I plow in early in the spring, usually upon stubble (which is contrary to Mr. Bedford's views). Plowing at this season admits of the sprouting of any foul seeds that may be near the surface. As the first sprout appears above ground I give it a thorough harrowing, which, as well as killing weeds, assists in packing and rotting the manure while the land is yet moist from the winter's snows. I now put on a roller and pack it thoroughly, and let it lie until time for sowing turnips, from the 15th to the 20th of May. At this date I give it another scouring with the harrow to destroy any weeds that may have appeared. I now sow my turnips with a Planet Jr. seed drill at the rate of about one-half pound to the acre about one-half inch deep. In this way I have never had a failure, and very little trouble with either turnips or weeds, and my manure is out of the way for the busy season, and brings direct returns.

In this settlement of late years most all the hay has been raked up directly after the mower before it wilts, and bunched in cocks from one to two hundred pounds, and comes out for the stack in a week or ten days in much better shape than that which is allowed to dry before raking. Stacking in the field, if I were as harsh as Mr. Bedford, or Mr. Brander, (on careless farmers), I would say that they were of the slipshod style of farmers, for no thorough good farmer will burn any straw, even though (as Mr. Brander says) grows a small patch of golden grain. I would prefer to stack my straw in large piles and let the neighbors' cattle or any other cattle tear and tramp it down, so that it will rot, and, if they couldn't tear it all down I would throw it down for them to tramp and lie upon, so that it will get full of snow during the winter, which will have it thoroughly wet for spring, to rot with the summer heat. To assist this heating, it would be well to throw it into piles. After this I would spread it upon the field (not a "patch," but a field of the "golden grain") and, if weeds appear upon this particular threshing ground, mow them down before the weeds or grain is ripe, and you will have a fine patch of "golden" hay. I am not one of those fortunate farmers who have been compelled to stack in the field for want of room in the barnyard; yet, I threshed pretty near 2,000 bushels of grain this year (mostly wheat) in the yard, and its straw will almost all pass through my stable before spring, and my cattle are doing well, and have not eaten five tons of hay this season up to date, and I have fed thirty-six head of stock. But then I grew turnips upon what Mr. Bedford would call "imperfectly rotted manure."

Then, the two Mr. B.'s are rather too harsh upon a great portion of our new farmers. We were not all born with "silver spoons" in our mouths, nor does

the government set us up with such tools as our country demands, nor do we all have sufficient capital to buy such as is needed on the farm. Therefore, many of us who are neither careless nor unworthy of the loan of a tool, have not yet sufficient means or tools to carry on a farm without the assistance of a kind neighbor. I have all the machinery, from a binder to a garden hoe, necessary on the average farm, and there are neither a wheel nor a blade that I have not loaned at some time to a needy neighbor, and I have borrowed from a horse to a butcher knife.

Ed. Note.—We are glad to have these criticisms. They differ from Mr. Bedford, but it must be borne in mind that he is prescribing for the breaking up of a Manitoba prairie, and general experience bears out the correctness of his views. The soil and vegetation further northwest may be much better dealt with as laid down by our critic, and it may even be proper to borrow and lend there on our friend's plan. Still, we think Mr. Bedford a pretty safe guide, either on back-setting or borrowing. He has not farmed in Saskatchewan, and cannot, therefore, be so safe an all-round guide there as he is in his own province.

A. Graham, of Forest Home Farm, Pomeroy, sends us the following list of recent sales: To Wm. Finch, Carman, one young bull, by Manitoba Chief, dam Bertha 11th; this bull is full brother to the choice young bull purchased one year ago by Usher Bros., Campbellville. One bull to Henry Ardington, Carman. One bull to James Brooks, Plum Coulee. One-year-old bull to Wm. Parkinson, Roland; this bull was bred by David Birrell, Greenwood, Ont.; sire imp. Clan Campbell, dam by imp. Duke of Lavendar; he is a good one. One-year-old bull to Matthew Sutton, Roland; this bull was bred by Hall Bros., Whitby, Ont., and is a big, sappy fellow. And last, but by no means least, we have to record the sale of Manitoba Chief to Kenneth W. Peters, of Swan Lake. This bull is well-known to the public as one of the best stock and show bulls in Canada. His breeding is the very choicest, and his individual merit quite as good as his breeding. We had in our herd a large number of females sired by Manitoba Chief, otherwise we would not have sold him. We have secured to succeed Manitoba Chief, as stock bull in our herd, Robbie O'Day (22672). This bull is two years old. He was bred by Wm. Redmond, Millbrook, Ont.; sire Prime Minister, imp. (15280); dam Marygold (17502), by Challenge (2933). This is the bull that made the Russell herd famous. Robbie O'Day is a show bull all over, and will doubtless be heard from in the ring, although too lean to get into the ring this year. He will make a very large bull. Although quite trim in flesh, he weighs 1,800 lbs. We also brought out from the herd of John Davidson a red three-year-old heifer of fine quality. This heifer is due to calve in a few days. While east we procured a choice pair of Ayrshire heifers as the foundation of a herd for Wellington Hardy. These have got into good hands and without a doubt will be heard from again. We would like to say 'don't' to parties contemplating writing us for P. Rock cockerels. The demand for these has been unprecedented. We have sold about forty cockerels, and could easily have sold 200. While east we procured a very choice pair of cockerels, large and well marked. These mated to our fine yard of hens should give good results. We have one bull left that we brought from the east by an imp. sire. He is a good one.

Gains on Summer Pasture.

J. B. Power is a well-known farmer in the Red River Valley, 150 miles to the south of us. He recently took to the discussion of the claims put for by some public instructors that more profit could be made by early and forced feeding for beef than by giving steers more time to mature. There is not so much said on this side of the line on behalf of "baby beef," but it is still worth noting for the comfort of those who like to go slow, the experience of Mr. Power on this point of slow or fast feeding. He says, in effect, that whatever may be the case further south, fattening at maturity is best here.

"It is true that the largest percentage of gain in live weight is made by the young things, but this does not prove that the largest amount of profit is always made by a stock raiser when selling a two-year-old. While recognizing the advantages of early maturity under some circumstances, I do not believe that our Northwestern stock raisers will get their full amount of profit unless holding until three years or more, and the reasons for this belief will be found in the following figures from the records of our Helen-dale farm.

"To determine the value of our grass lands we have at different times weighed out in the spring and back in the fall when bringing in for barn feed. Now, taking the records of one of our average seasons, when weighing out April 30th and again on the 15th of November (199 days on grass), and connecting them with this subject, this article is suggested.

"These records are as follows: Fourteen yearling steers show an average gain of 292 pounds each, 1 46-100 lbs. per day; 60 4-5 per cent. gain on spring weights. Four two-year-old steers, average gain 325 pounds each, 1 63.100 lbs. gain per day, 47 per cent. gain. Six three-year-old steers, average gain 320 lbs. each, 1 57.100 lbs. per day, 37 per cent. gain. Three four-year-old steers, average gain 320 lbs. each, 1 60.100 lbs. per day, 31 per cent. gain. Twenty-one yearling heifers, average gain, 331 pounds, 1 66.100 lbs. per day, 85 per cent. gain. Nine two-year-old heifers, average gain 316 lbs., 1 59.100 lbs. per day, 51 per cent. gain.

"It will be noticed that there was but little difference in the average aggregate gain of the different ages, but there is a marked difference in the percentage of gain on spring weights. It so happens though that we always sell by weight, not by per cent. of gain during any particular period.

"Our yearling and two-year-old steers (not taking the heifers into consideration, for they were not put up for sale), showed the largest percentage of gain and nearly as much aggregate gain as the threes and fours, yet were marketable only at minimum prices for stockers and feeders, while the threes and fours were in demand at the maximum prices for beef. These figures may be suggestive to some brother cattle raiser who is in doubt about this matter, and we present them without further comment."

Messrs. Bedford and Champion have for several weeks been doing splendid service in institute work all over the province. Along the main line from Bird's Hill to Elkhorn, on the Deloraine branch, and as far north as Neepawa and Birtle. They have had excellent meetings, and did very much to keep fresh the public interest in such work. Mr. Champion has carried with him models of clever contrivances for hay and other work, such as calf and pig feeding, which never failed to interest all who heard him.

The Projected Abattoir.

Messrs. Gordon & Ironside have completed arrangements for starting a new branch of the stock industry that must be of special benefit, not only to Winnipeg, but the whole stock industries of the west. They have completed plans on the newest and best scale for the erection of an abattoir and cold storage warehouse on a plot of ground west of the Southwestern branch of the C. P. R. The work will be started as soon as spring opens. The main building will be 160x60 feet, brick veneer, and will be used as a slaughter house and cold storage warehouse. The property comprises ten acres. Besides the buildings necessary for the industry there will be a commodious stock yard. Branch tracks will be run to the stock yards, so that cattle can be easily unloaded. Similar facilities will be provided for the cold storage building, enabling the carcasses to be shipped direct on the cars.

The London "Statist" says India's wheat crop promises splendidly. Cutting began in February, and it will be shipped at the end of March or early in April, "thus immensely benefitting Europe at the time American supplies are low." The "Statist" further remarks that Australia is expected to be in a position to export a great deal more wheat than before.

J. A. McGill, Neepawa, writes:—"My fine sow, 'Rosamond,' dam of the 1st and 2nd prize sows, under six months, at Winnipeg last July, farrowed 17 strong, healthy pigs on the 24th inst. I am importing from Ontario the noted prize-winning boar, 'Fitz Lee,' winner of 13 first and 1 second prize at the leading shows of Ontario; also a fine sow, bred by J. G. Snell, winner of nine first prizes last fall in Ontario. I have a lot of fine sows to farrow in March and April."

The president of the Royal Meteorological Society of England is reported as having said that harvest crops depend more for food on the atmosphere, than on the soil. For instance, five per cent. of the wheat crop is derived from the soil, and the rest from the atmosphere.

Within the last few days it has been discovered that the elevator at Treherne has been tapped by daring thieves, and a considerable quantity of grain run out into a wagon by means of a spout fixed to the hole. How much has gone in this way can only be guessed. A car on the track had also been tampered with, and this led to a careful examination of the elevator itself. At one place a sheet of the iron covering was found loose, and behind this 2-inch augur holes had been bored. It is most likely that more such work has been done, the high price of the wheat furnishing extra temptation.

The total elevator capacity west of Lake Superior up to date, as brought out by the Winnipeg Grain Exchange, is as follows:

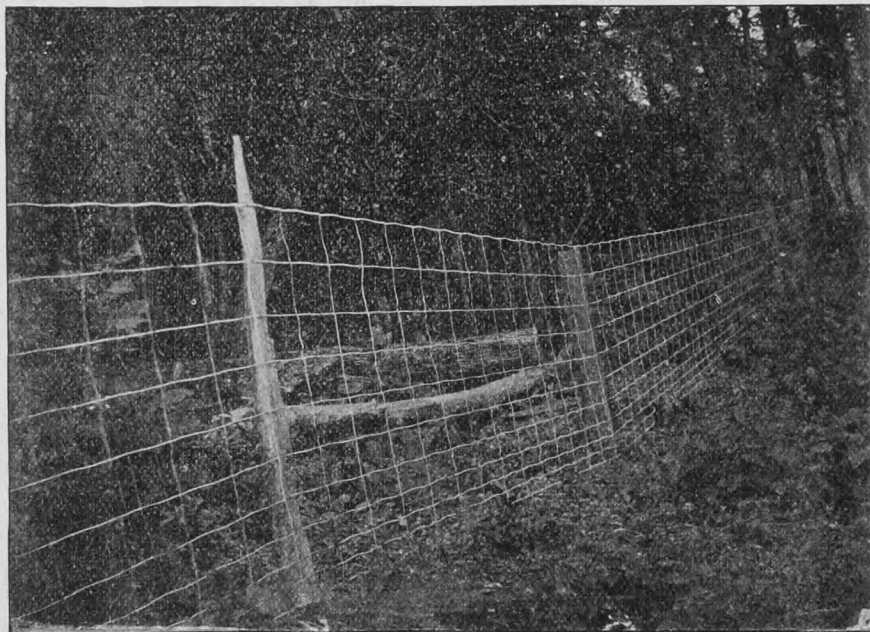
	Bushels.
C. P. R.	15,766,000
M. & N. W.	1,136,000
N. P. R.	1,004,000
G. N. W. C.	357,500
L. M. R. & C. Co.	115,000

Grand total, 1898 18,378,500

Grand total, 1897 14,999,300

Increase for year 3,379,200

The total elevator capacity, it will be seen, was sufficient to have stored the entire wheat crop of the province. In 1891 the total elevator capacity was 7,628,000 bushels, and the following year it was increased about three million bushels. In 1894 scarcely any building was done, and the average increase has been about a million bushels per year. Last year was considerably above the average. Perhaps it will be a safe thing to give it a rest for a year or two.



A Few of the Many Reasons why Farmers Prefer the Page Coiled Spring Fence.

It is made of extra quality hard steel wire; giving greater strength for the same size of wire.

It has a coiled spring every foot, so that it does not need to be wound up after every change of weather.

It is woven with cross wires only one foot apart, so that your neighbors' hogs and sheep cannot squeeze through it.

It does not need a pole on top of posts, because the top wire is made of No. 7 hard steel wire. Tensile strength of this wire is 3,000 lbs.

Farm styles of this fence furnished at from 45 to 70 cents per rod. For further particulars address **The Page Fence Co., Ltd., Walkerville, or The Rathbun Co., Winnipeg.**



F. W. PARKIN, PHOTO, WINNIPEG.

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MISS E. CORA HIND,
(Sec-Treas., W'peg).
S. LARCOMB, Birtle.

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WM. RYAN, Ninga.
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Wm. Scott, Winnipeg.
D. W. McQUAIG, Macdonald.
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R. WAUGH.

THE NORTH-WEST FARMER
WINNIPEG

Manitoba Dairy Association, 1898.

To Breeders, Importers and Exporters of Pure Bred Live Stock.

The Secretary of the Dominion Cattle, Sheep and Swine Breeders' Associations, J. W. Hodson, Toronto, has issued the following circular, which will no doubt interest our readers:—

The Transportation Committee of the Dominion Cattle, Sheep and Swine Breeders' Associations met the representatives of the various Canadian railways, and obtained the following reduction in shipping weights of pure-bred animals. The weights at which pure-bred animals will hereafter be carried by the Canadian railways are as follows. The charge per cwt. remains as heretofore:—

	Pounds each.
Bull calves, 6 months old and under	500
Bull and bull calves, over 6 months and under one year old	1,000
Bulls, one year and up to two years	2,000
Bulls, over two years old	2,500
Cows, one animal	2,000
Cows, two animals in same car ...	3,500
Cows, three animals in same care ..	5,000
Each additional animal in same car	1,000
Must be from one shipper, to one consignee, in one shipment, to one destination.)	
Heifer calves, 6 months old and under	500
Heifer calves, over 6 months and up to one year old	1,000
Heifers, over one year and up to two years old	1,500
Heifers, over two years old, same as cows.	

Certificates of registration must, in all cases, be produced by shipper. Agents will take note of particulars as to name of animal and age, and keep record of same. Also make note of billing accordingly.

Pedigreed stock, as above, may be taken without men in charge, provided owners sign the usual contract releasing the company from liability in consequence thereof.

The above special estimated weights will only apply when owners sign the usual valuation agreement for ordinary stock. If extra values are declared the weights and rates will be as per classification for valuable stock.

FREIGHT RATES ON PURE BRED STOCK FROM ONTARIO TO MANITOBA AND N.W.T.

The Joint Transportation Committee has arranged with the officials of the C. P. R. and the G. T. R. to carry pure-bred cattle, sheep and swine, in car loads, from any point in Ontario and Quebec, west of Montreal, at the rate charged on settlers' effects. The rate for a car load of 20,000 pounds from any point in Ontario or Quebec, west of Montreal, to Winnipeg, is \$72 per car load; to Regina, \$90; to Calgary, \$114; and corresponding rates to all other western points. (The rates hitherto in force for a similar car load have been—to Winnipeg, \$130; to Regina, \$164; to Calgary, \$202; and these latter rates are now charged for animals not recorded.)

A car load of pure-bred stock weighing 20,000 pounds, may now be sent to New Westminster or Vancouver, B. C., for \$251.

MIXED CAR LOADS MAY BE SHIPPED AT THE ABOVE REDUCED RATES.

The officials of the C. P. R. have recently granted the following additional concessions to shippers of pure-bred live stock to Manitoba and the Northwest: A mixed car load of pure-bred live stock and settlers' effects may now be carried at the above reduced rates, provided that the goods and live stock (other than pure-bred animals) are for a bona fide settler

who is going to Manitoba or the Northwest for the purpose of taking up land and farming thereon.

Settlers' effects, within the meaning of this tariff, may be made up of the following described property for the benefit of actual settlers, viz.: Live stock, any number up to, but not exceeding ten (10) head, all told, viz.: Cattle, calves, sheep, hogs, mules or horses; household goods and personal property (second-hand); wagons, or other vehicles for personal use (second-hand); farm machinery, implements, and tools (all second-hand); lumber and shingles, which must not exceed 2,500 feet in all, or the equivalent thereof; or in lieu of, not in addition to the lumber and shingles, a portable house may be shipped; seed grain; small quantity of trees or shrubbery; small lot live poultry or pet animals; and sufficient feed for the live stock while on the journey.

All, or any of these goods may form part of a car load if shipped in accordance with these conditions; the remainder of the car may be filled with pure-bred live stock.

Under the new arrangements it is not necessary to load all the animals composing a car load at one point, i.e., part of a car may be loaded at London, part at Woodstock, part at Toronto, or at any other stations on the direct line between the starting point and the destination of the car. No additional charge will be made for a car so loaded except shunting charges, which are \$3 for the first stop, and \$2 for each subsequent stop.

One man will be passed free with each car load, and he will be returned from the destination of the car to the original point of shipment at one cent per mile, second class. All animals (except those classified as above as settlers' effects) sent at the above rates must be pure-bred, and shipped for breeding purposes only; and a certificate of registration for each animal must be presented to the agent at the shipping point. After being examined by the agent, each certificate will be returned to the shipper.

Parties who wish to ship single animals from any point in Ontario to Manitoba and the west, may do so at car load rates by corresponding with the Secretary of the associations, and as soon as enough animals to fill a car are offered, the car will be forwarded in charge of a suitable attendant. The price charged for the transportation of such animals will be about \$12 per head for cattle when sent to Winnipeg. If sent to Regina, the charges will be about \$15 per head; and to Calgary, \$18. Young cattle, and sheep and swine will be carried at proportionate rates. The above charges include feed and attendance.

The above rates are approximate. If the car is full of animals of medium size, the animals may be carried for less than the sum stated; if the animals are very large and the car not full, the price charged may be in excess of the sums given. Every effort will be made to economize and deliver the animals as cheaply as possible. Each shipper will be required to pay shunting charges necessitated by his shipment. Freight in all cases should be prepaid.

In regard to unloading and the final distribution of pure-bred stock shipped from Ontario to points in the Northwest, the following arrangements have been made: The car containing stock shall be way-billed through to the farthest point of destination, and may be stopped off at intermediate points on the direct line to unload animals. Two dollars will be charged for each time the car is stopped. That is, a car may leave Toronto containing animals bought by persons residing in or near Winnipeg, Portage la Prairie, Brandon, Regina, Prince Albert and Calgary.

This car may be billed through to Calgary, and the car stopped at Winnipeg and animals unloaded. It may again stop at Portage la Prairie and animals again dropped off, so also at Brandon and Regina. The animals intended for Prince Albert would require to be trans-shipped at local freight rates from Regina to Prince Albert; the car would then proceed to Calgary. Two dollars will be charged for each of these stops, excepting the one at Calgary, which is the destination of the car. All animals trans-shipped from a central point over branch lines will be charged local freight rates.

The following circular dealing with local freight rates has been issued to agents, shippers and consignees by the C. P. R. lines, west of Lake Superior; M. & N.W., and the G. N. W. C. R.

REDUCED RATES FOR SHIPMENT OF PURE BRED CATTLE, SHEEP AND SWINE.

In order to encourage the introduction and exchange of thoroughbred cattle, sheep and swine in the agricultural districts of Manitoba, Assiniboia, Alberta, Saskatchewan, and British Columbia, shipments will be accepted for carriage, in less than carload lots, at a reduction of 50 per cent. from published tariff rates between stations on all lines west of Lake Superior.

To entitle shipments of aged (full grown) cattle, sheep and swine to this concession in rate, the owner or agent must produce to the shipping agent a properly attested descriptive certificate that the animal is pure-bred, and admitted to full registry in a book of record established for that breed.

Unregistered young stock will be accepted for shipment at the same discount when accompanied by the breeders' statutory declaration, descriptive of the animal and its pure breeding, showing that it is eligible for registration and that written application for a certificate has been made to the secretary of the book of record for that breed.

Agents are expected to examine the stock offered for shipment under the terms of this circular, and to see that the animals agree with the descriptive pedigree or statutory declaration provided by the shipper.

Way-bills for aged stock (full grown) must give a description of the animals, the number of the certificate, name of herd book, etc. Way-bills for unregistered young stock must give a description of the animal and bear notation that breeder's declaration was produced and is on file with the agent's copy of live stock contract. The owner or agent will be carried in charge on the same terms and conditions as prevail in the handling of ordinary stock.

RATES ON ANIMALS SHIPPED FROM ONTARIO TO EXHIBITIONS IN THE WEST.

The C. P. R. will carry animals from Ontario to the Northwest for exhibition purposes at the reduced rate per car load, and will return the same at one-half the going rate. For instance, a shipment to Winnipeg would be charged \$72. If returned to the original point of shipment the rate would be \$36 in addition to the \$72, total \$108, from any point in Ontario west of Montreal to Winnipeg. Corresponding rates to other points.

The American Shropshire Association has decided to offer a special prize of \$15 and \$10 for old and young flocks at the Winnipeg Industrial for 1898. All animals competing must be American bred, owned at least ten days before showing, and recorded in the American Shropshire Register. Any sheep having won an Association prize at any show will not be allowed to compete again.

THE NOR'-WEST FARMER

ESTABLISHED 1882.

The only Agricultural Paper printed in Canada between Lake Superior and the Pacific Coast.

THE STOVEL COMPANY,
PROPRIETORS.CORNER McDERMOT AVE. AND ARTHUR ST.
WINNIPEG, MANITOBA.

SUBSCRIPTION to Canada or the U.S., \$1 a year, in advance. To Great Britain \$1.25 (5s. sterling). Agents wanted to canvass in every locality, to whom liberal commissions will be given.

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Copy for changes in advertisements should be sent in not later than the 20th of the month to ensure classified location in the next month's issue. Copy for new advertisements should reach the office by the 30th of each month.

TO OUR SUBSCRIBERS.

It is the intention of the publishers of this paper to admit into their columns none but reliable advertisers, and we believe that all the advertisements in this paper are from such parties. If subscribers find any of them to be otherwise, we will esteem it a favour if they will advise us, and we will at any time give our personal attention to any complaints which we receive. Always mention this paper when answering advertisements, as advertisers often advertise different things in several papers.

LETTERS.

Either on business or editorial matters, should be addressed simply "THE NOR'-WEST FARMER, Winnipeg," and not to any individual by name.

Look at Your Subscription Label.

When you pay your subscription, watch the name label on the next two issues which you receive. On the first issue following payment, it might not give the correct date—the type-setting machine may make an error and the proof not corrected before mailing day. But if the date is not correct on the second issue please notify us by postal card.

Look at the date label now. Are you in arrears? Are you "paid up" to the present date? The label will tell you. If in arrears, please renew promptly.

WINNIPEG, MARCH, 1898.



OUR PREMIUMS.

The Farmer owes an apology to a number of its subscribers for the tardiness with which certain premiums have been forwarded, they being delayed in transit. We have, however just received the last consignment, and everyone entitled to receive a premium should have same ere this month's issue reaches them.

The premium pictures, "Battle of Queenston Heights" and "Stag at Bay," are now exhausted, and we will be unable to supply orders for either of these after this date.

We have had to withdraw our offer of "Five Books," on account of there being a Canadian copyright on "Beside the Bonnie Briar Bush" and "Black Beauty."

We have, however, a stock on hand of any of the other premiums offered, which we can still supply subscribers. Those who have not yet renewed we would ask to do so without delay, as it is the intention of the publishers of The Farmer to strip the list of those in arrears.

PERILS OF FACTORY DAIRYING.

Perhaps the most important of all the meetings held in the convention week at Winnipeg was that in which the delegates from the various factories in Manitoba set forth their experience, with pertinent details, of the difficulties and disappointments incident to new combinations in the line of factory butter making. It is not at all difficult to lay out a programme for a new start in such work. About this time of year the fresh blood begins to flow in our veins, and we plan all manner of means to better ourselves. If along an untried road, we go all the more lively. Somebody that figures as an authority is called in to talk a little, or sometimes a good deal of enthusiasm is stirred up, and a committee named to canvass for cows and cash. When 300 cows or thereabouts are booked, a share list is got up, and unless some happy accident intervenes, the creamery is started with less than half the support it ought to have, and it would be a fortunate thing for nearly every one interested if the place would only take fire before haying is in full blast. If not, the first two weeks of harvest will close the concern for the season, and it is fortunate if the parties interested do not resolve to close out of the business and sell the outfit or let the government seize it to pay its mortgage indebtedness.

Some people may think this a rather coarse caricature, and some may not. The Souris creamery, as portrayed by Mr. Dickie, M. P. P., may be taken as a sample of well-meant but over-sanguine creamery enterprise. It started with 250 cows owned by 58 patrons, and 8 good country cows could have produced all the butter from the most liberal patron. He made the first whole month 202.6 lbs. butter, and one-third of one good cow could have furnished all the output from the lowest patron on the list. The third month's patron list had shrunk to 15, one of whom contributed 1.4 lbs. butter in the month, a fair day's output from one good cow. Less than half a pound per cow per day is the season's record, and the number of cows had dwindled to 100.

The first blunder in this particular failure was made by the prime movers, who, to help the district, started the business with shares, of which the farmers apparently took not one. It is not at all to be wondered at that the members of this unfortunate combine sent in a delegate to look up pointers for their next year's operations.

Messrs. Fanning and Grassick were fortunately able to furnish records of more guarded, and therefore more successful action, and the distribution of the shares among men who had a substantial interest in the business, is the strong point; that and the extra charge for making to non-shareholders. You want to get even the cream haulers to take a more than perfunctory interest in the work, and you want also prompt and capable business action all through. It is absurd to have to call a committee together before you can sell a month's make of butter. And first, last, and all the way through, we need to infuse a strong leaven of business loyalty into all who have any share whatever in the concern. The man who bawls in spring for a creamery, but evades responsibility all the way through, and bullies or sneaks his way out by mid-summer, on account of some little real or pretended tiff at the management, or the

cream-tester, smells to heaven all through our creamery history for the last few years.

There is far greater room for anxiety about the future of our dairy factory system than most people have any idea of. Business difficulties can be met and grappled with, we have no lack of that kind of faculty. But unless there is roused throughout the country a stronger determination to do such justice to the factory system as common sense demands for every enterprise conceived for the nation's as well as the individual's benefit, our factory system is bound to go to the wall, and it is not unlikely that the very men who are now doing all they can to starve it out, will be among the first to realize the effects of their selfish disregard of sound public policy on this dairy factory business.

—Broadview wants to start a creamery with 400 farmers' cows. There are too many creameries of that sort already. It takes 700 such cows to start with, for in a short time they will get down to 400, which means a dead loss to whoever is to run it.

—The Shire horse has at present an unexampled run as the fancy of the titled and wealthy stock-breeders of England. At a recent sale from the Prince of Wales' stud, at Sandringham, the average for the lot was \$1,320, the highest, a 3-year-old filly named Seabreeze, going at \$5,807.

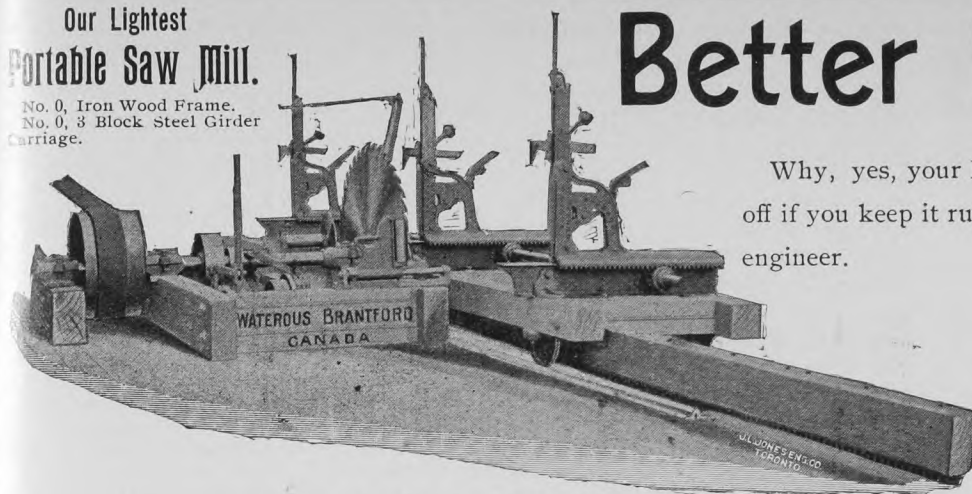
—In making our awards to winners in the various competitions in last month's Farmer, we inadvertently omitted two of the four given for "General Readers." They are as follows: Rob Roy, Campbellville, on "How to Train a Collie," and J. W., Portage la Prairie, on "Cultivation for Wheat." We hope to publish both of these papers in our April issue.

—We have taken special pains to have an accurate and full report of the discussions following the addresses of Messrs. Mackay and Bedford on the subject of grass cultivation. Constant enquiries are being made about Brome grass especially, and what is given in this issue may be regarded as the latest, fullest and most accurate presentment of the views of the able managers of the Experimental Farms on this subject.

—Last month, when discussing the subject of "Handling the Bull," we invited those who did not agree with such opinions to come along and give us a talking to. A gentleman has done so. He invites us to prove what we say. There is no need to do that. The teachings of experience are not to be upset by one or two exceptions, and every week brings out some one in authority to back up our contentions. Here is the latest from "Farming," for Feb. 22, 1898: "We would emphasize the fact that too many of our best bulls are ruined before their stock is old enough to show their value as breeders. High feeding for exhibition purposes, lack of exercise and overwork soon makes short work of them. When their true value as stock getters comes to be recognized they are no more." A bull may get high honors in the prize ring that is a failure as a stock getter.

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Better Running.

Why, yes, your Engine is a hundred times better off if you keep it running and have a good competent engineer.

Why store it up for 10 months out of the year—and pay interest on that when by investing a little more you make your idle engine turn in money.

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A SHINGLE MILL, A PLANER & MATCHER.
A WOOD SAW RIG,**

WATEROUS,

WINNIPEG,

MANITOBA.

ADDRESS--

When writing advertisers, please mention The Nor'-West Farmer.

—A Western M. P. has introduced the following amendment to the general Railway Act, with a view to upsetting the present elevator monopoly: "Sub-section 246 of the Railway Act, Chapter 28, of the statutes of 1888, is hereby amended by adding to the end thereof the following words: "In the case of grain, every railway company shall afford all reasonable facilities at all way stations or shipping points for receiving it into its cars directly from the farmer's vehicles, platforms, or warehouse, in or upon which it is when so offered for transportation, and every railway company, failing to provide reasonable shipping facilities as hereinbefore provided, shall be liable for damages thereby caused to any person offering grain for shipment." The Farmers' Institutes are a unit in favor of this change, and the discussion on this point in the House cannot fail to prove interesting. This amendment is in entire accord with the present railway enactments in the States alongside of us, which have worked for years with a minimum of friction and a maximum of satisfaction to the growers in particular.

—To hear interesting news about yourself you have only to go far enough from home. Here is a bit of information fresh from England: "A colonial gentleman states that they have an excellent way of checking excessive drinking in Manitoba. When a man there had been twice or thrice convicted of drunkenness in the police courts he was sentenced to wear a brass collar, which marked him out among his fellows as a person to whom no publican could with impunity serve drink. This drastic measure often proved a cure. On the authorities being satisfied that the branded individual had served a sufficient term of probation he was uncollared and restored to liberty of liquor. This is something like practices in vogue in England 600 years ago."

From an Australian exchange we recently learned that last year's wheat crop in Manitoba totalled up over 34,000,000 bushels.

The last and best of all is as follows: "According to the latest official dispatch, the wheat crop of the Dominion of Canada is estimated at 530,000,000 qrs." Equal to 4,240,000,000 bushels!! That will do. Please give us a rest.

—A good deal of stir has been made across the line about the alleged frauds on the part of Graham Bros. in the entry and breeding of their well known horse Royal Standard at the Chicago Horse Show. Their horse won everything he tried for, and since then the most discreditable dodges have been tried to blacken the reputation of the owners. Alexander Galbraith, the well-known Clydesdale man, who knew all the facts, has in the most trenchant way exposed the miserable tactics of the parties who tried to discredit the victors and their horse, and it is with shame we learn that the Breeders' Gazette, a paper that we always believed superior to such subterfuges, has refused to publish Mr. Galbraith's letter, which exposes the State Board of Illinois, as well as the more obscure actors in this shameful outrage on international courtesy and justice. The Grahams got the silver cup awarded them, but they have been placarded all over this continent as rascals and their fairly won prize money withheld. It is doubtful if other Canadian exhibitors at the same show will ever be paid. Public honor in that great city seems to have fallen to a low ebb, indeed.

—The business of cattle transportation from this side to England is year by year getting to be less risky. In 1897 the regular Liverpool lines brought into the Mersey over 251,000 head of cattle from the United States and Canada, and the total loss was not more than 454 head, or about one-sixth of one per cent. Of the total number above mentioned, the White Star line carried over one-sixth, or 42,636 head, and only lost 24 head, showing the wonderfully low proportion of about one-twentieth of one per cent. Contrast this with the way business of the same kind is run from the River Plate, as described

in a recent issue of Chambers' Journal. The voyage, he says, is necessarily a long one. The distance is close upon 7,000 miles, and the time occupied about thirty days. One of the greatest trials that the animals have to undergo on all vessels alike is the change of climate en route. They may leave South America during the southern summer, have a stifling journey through the tropics, and, on approaching British waters, encounter the full rigors of the northern winter. Cattle from North America are better off, inasmuch as they make their death journey along the same latitude. It appears that on many of these "tramp" vessels every available inch of deck is utilized for the cattle, while a wooden platform is erected over their heads for the accommodation of the sheep, which are thus on a level with the captain on the bridge. The fittings being of a temporary nature, are ill-adapted to stormy weather, and when the ship rolls and pitches they are often carried away, leaving the unfortunate animals to be thrown hither and thither. A heavy sea may come, and sweep dozens of sheep away at once. The scene on the cattle deck is, if anything, even worse. "Imagine," he says, "a score or two of helpless cattle dashed from one side of the ship to the other as the vessel rolls from port to starboard and starboard to port, amid a ruin of smashed pens, with limbs broken from contact with hatchway combings or winches, dehorned, gored, and some of them smashed to mere bleeding masses of hide-covered flesh; add to this the shriek of the tempest, the impossibility of the crew getting from one part of the ship to the other, and the frenzied moanings of the wounded beasts, and the reader will have some faint idea of the fearful scenes of danger and carnage occurring on these floating farm-yards."

Dr. Young, of Manitou, and D. A. Stewart, Pilot Mound, have addressed a series of very successful institutes at Deloraine, Melita, Hartney, Brandon and Rosser, and have been well received at every point. The management of stock in health and sickness, Brome grass and forage supply and evergreen cultivation were the topics mostly dealt with, and their services have been fully appreciated by all who had the good fortune to hear them.



Around Yorkton.

A visit of a number of days the past month in and around Yorkton gave me an opportunity of seeing something of this part of the country and of picking up a few facts which may prove interesting to the many readers of The Nor'-West Farmer.

This place is the northwestern terminus of the Manitoba & Northwestern railroad. It is now about fifteen years since the first influx of immigration to this part of the Territories. Since that time a great many advances have been made, which only the early pioneers can appreciate to their fullest value. For a number of years the nearest railway connection was with Whitewood, on the main line of the C. P. R., a distance across country of about 78 or 80 miles, and not until the fall of 1891 did the M. & N. W. reach its present terminus. However, of course, a great deal of substantial progress had been made before this date.

Yorkton of to-day is a town of about 450 inhabitants, is fairly well built and shows in a number of ways that its citizens are an aggressive people. Before the advent of the railway quite a respectable village had already sprung up at a point about two miles north of the present site, but it shared the fate of many another of the hamlets of the early days, and now it figures only in history.

The town of Yorkton has a guarantee of future importance in that it is the distributing point to a very wide tract of fertile country. Already many very good settlements may be found at from 20 to 30 miles from the town, and a number of the ranchers and other settlers have gone back to a distance of 50 miles or more. In fact, many of the best and thickest settled parts of this district are to be found at from 10 to 20 miles from the railroad. Around here there has been perhaps rather more foreign colonization than in most places. A particularly good part of the country is to be found along the White Sand, about 18 miles northwest of the town. This, by the way, is the home of A. Hutchinson, from whose pen a number of excellent articles have appeared in recent numbers of The Farmer. Although I had not the pleasure of a visit to his place, I heard of him from his brother farmers as one who practises in business what he preaches in print. There are a number of German settlements in different localities, which all seem to be doing well. Southwest of Yorkton is a prosperous Hungarian colony, while to the east are a number of Crofters. During the past year a large number of Galicians have been brought in and settled at Crooked Lake, about 30 miles to the northeast, and also north of Beaver Hills to the northwest of the town. Of course, however, the predominance of the farmers are English-speaking.

Although settlement is as yet comparatively thin, almost all the land for many miles around is held by the farmers, the companies or prospectors, and wild land sells at from \$2.50 to \$6.00 per acre. Besides that portion which is in the hands of the railway and Hudson's Bay Co., the York Farmers' Colonization Co. control a considerable quantity.

The country is of a mixed character, affording a choice of prairie and scrub land, with a good supply of hay and timber land within tolerable distance. Besides a good deal of small poplar, intermingled with the willow scrub, over a large part of the country, there is a heavy poplar forest at the Beaver Hills.

Mixed farming has been found to be the most profitable to follow. In many districts considerable wheat has been grown and has proven quite a success. The average for the past season has been perhaps better than in most of Manitoba, running about 20 bushels of wheat and 40 bushels of oats. The average for different years is said to be from 35 to 40 bushels of wheat and about 75 bushels of oats. The tendency, however, in a number of places is to too much straw and protracted growth for safe wheat growing. The shipping of stock from this point is very great. Besides the large number which are annually exported by the farmers closer at hand, the supply from the ranches to the west is very extensive, some the past season being driven across the country from the Prince Albert district. Of late years a good deal of pork and poultry have also been raised.

The dairy interest has proven quite a success at Yorkton. The creamery has finished its third season, and has given good returns and much satisfaction to the various patrons. The past season, according to the report of Prof. Robertson, to the Northwest Dairymen's Association,

although Yorkton takes third place in number of patrons and second in number of inches of cream collected, it leads in the quantity of butter manufactured, reaching an output of 49,362 pounds of butter from 112 patrons. With the contemplated improvements and the manifest interest and confidence, the returns in the future should be very satisfactory. I notice that a recent writer in the local paper has confidently asserted that "nowhere in the universe has nature done more for dairymen than here in Yorkton and vicinity."

So far in its history this part of Assiniboia has been pretty free from the pest of noxious weeds which are proving so vexing a problem to many of the Manitoba farmers.

Owing to the lateness, generally, of the spring rains, the growth and success of vegetation is dependent in no small degree upon a good supply of snow, and the farmers were rejoicing over the comparatively heavy fall of this season, and looking forward to a good year.

Altogether the thrift and contentment to be found is gratifying, and bespeaks for this district continued growth and progress.

G. B.

To take the bovine by the horns,
By a proverb old we have been warned,
But times have changed, and now we're told
To have the bull dehorned.

PAINT.

Where buying why not get the best?

It is an exploded idea that Pure White Lead is the best material for painting buildings. Many other paints are more lasting, such as Oxide (or Red) Lead Oxide (or White) Zinc Oxide of Iron, etc. On these the atmosphere and weather have little or no effect, while White Lead, being only corroded with acid, commences to oxydise as soon as exposed, and when the oil has dried out, it chalks and rubs off, besides, as every one knows lead is one of the deadliest of poisons, and never should be used on roofs, where the water runs into a cistern, nor for interior house painting.

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Notes by the Way.

There are several reasons why tree planting should be urged upon the farmer, and this is not an untimely season to approach the subject. I was pleased to find a number of farmers about Morden who have given the matter more attention than usual. In a conversation with Jos. Wilson, of Glencross, he unfolded a scheme which he had brought before the council of his municipality, and which seems to me to be a fairly good one. It was to make compulsory the planting of some suitable kind of tree along either side of the road allowance. This might be done in lieu of roadmaking where the roads are already good. At say three years old a bonus of about 10 cents might be paid for all living trees. Planting them a rod apart, it would only require 200 trees to every quarter section, and it need not be long before all the roads were planted. There would then be very little danger of losing the road in the blizzards; the windbreak thus afforded would be valuable; the effect in drawing more rain and moisture might be worth something, and the investment as a wood-growing scheme might not be unprofitable.

In the December number of The Farmer I read, with much interest, "Hits and Misses in Fruit Growing," by A. P. Stevenson, of Nelson, Man. In the early part of February I had the pleasure of visiting his beautiful home. After having visited a majority of the farms in the best parts of Southern Manitoba, and having found in few places any attempt whatever to break the monotony and bleakness of the prairie by planting trees or shrubbery, and having heard many scores of housewives sigh because it is so hard to get fruit in Manitoba, it was indeed a great treat to come upon a farmer whose place is an illustration of what may be done by care and skill to make fruit growing, even in Manitoba. Mr. Stevenson has now about seven acres devoted to fruit gardening, and, of course, he admits that a great deal of care and work is required to keep in order this important department of his farm. Another fact which it would be unfair to withhold, in urging Mr. Stevenson's success as an example of what can be done, is that there are natural advantages in connection with the location of his farm which the majority of places do not enjoy. The fine natural windbreak to the north doubtless has had something to do with the satisfactory results which have been obtained with some comparatively tender varieties of fruit. In fact, he himself admits that there is very little use in trying to grow any kind of fruit upon the open plains without first securing shelter by means of a windbreak. In this connection I am inclined to question if anything could be found which combines beauty and utility more perfectly than the Scotch pine, a number of which lend not only their name but their evergreen beauty to "Pine Grove Farm." Of course, many of the various advantages which an evergreen affords as a desirable tree to plant are obvious to all. In the first place, it is ever green—a thing of beauty and a joy forever. Then it branches from the bottom and does not allow the wind to sweep under it. It has not the disadvantage of being leafless and open in the winter, when its protection is most needed. There are no flying leaves or cotton to blow about with the winds. I was also informed by Mr. Stevenson that he had found the tree perfectly hardy and satisfactory in every way, and that they made with him a growth of about two feet per year. In regard to fruit growing, I was informed that the

greatest profit had been found in raising raspberries, strawberries and gooseberries. Many varieties of these are quite hardy, and give splendid results. Currants are too commonly grown to be very profitable, so says this gentleman. He has a number of trees of the Transcendent crab which have given very good returns. I was shown a crab graft which had been put in a year ago, and which had grown six feet the past season. Mr. Stevenson was a very heavy sufferer last winter through the rabbit pest, but had had no trouble at all this year. He was hopefully expecting things to come out well this season, the weather so far being favorable to all kinds of fruit, excepting those grafted on tender roots. He believes that one of the greatest detriments which the matter of fruit-growing has received in this province has been the travelling salesmen, who, as a rule, know nothing of the suitability and hardness of the goods they were handling, and whose stock was largely obtained from eastern nurseries, where climatic conditions were entirely different to what they are here. These disadvantages, together with buyers whose ignorance of the subject has mostly been very extensive and complete and an almost total lack of care after planting, has interfered very seriously with the growing of fruit. However, a number of the farms near Nelson bear evidence that a good example is bound to have its leavening effect.

These are days of pernicious habits and perverted tastes, and as a consequence we have anti-liquor, anti-tobacco, and anti-opium societies. The other day I was in a stable, where a new "divarshun" had been invented by one of the bovine inmates. I noticed that a number of the horses had tails almost entirely denuded of hair, and enquired the reason of such an application of the tonsorial art at so untimely a season. I was informed that a heifer had been tied in a stall just behind the horses, and had so firmly contracted the habit of tail-chewing that she would leave her sisters and follow the horses all about to get a chance to secure her favorite morsel. She had her choice pasture pretty closely cropped, and, "with their tails cut short," the roadsters reminded one of Der Deitcher's dog.

The question of socialism is one which has attracted considerable attention for

some time, and upon which many theories have from time to time been promulgated, but as there are so few cases of its practical organized working in Canada, the readers of The Farmer may be interested to learn that such an organization is to be found in full running order at Tantallon, Assa., 30 miles north of Moosomin, more especially as it is composed of a farming community and principally interested in agriculture. From a recent conversation with Mr. Wm. Paynter, of Beulah, one of the members, I gained the accompanying facts. The society, which has been organized a little over two years, is known as the Harmony Co-Operative Industrial Association, and is at present composed of eight farmers. They are following as nearly as possible the principles set forth by Edward Bellamy in his books, "Equality" and "Looking Backward." Private properties and interests have all been merged into one whole, and the individual members reap the benefits (and incidental disadvantages, if any,) which accrue from this society. The association now controls about 3,000 acres, and all the different branches of industry in connection revolve around the one centre. The people live in a village, have a school in their midst, and control a store. Mr. Paynter claims that the saving in investments in farm machinery has proven to be a very large item; that a great deal of economy has been effected in the matter of farm buildings, fences, etc., and that there has been a great benefit in the employment of labor to advantage. They manage a creamery of their own in connection, and possess about 100 head of cattle.

There is another similar institution at Lethbridge, Alta., which includes farmers, ranchers and miners, and which is reaching a membership of nearly one hundred; another at Ruskin, B. C., is about sixty-five strong, and one or two like bodies are to be found in Ontario. Mr. Paynter is an ardent Socialist, and claims that the experience of the Tantallon association has proven to be not only a practical demonstration of the feasibility of socialism, but that a considerable economy is among the blessings which attend its introduction into farming. He says that all the members are very highly pleased with the experiment, that the utmost harmony has prevailed throughout, and that the membership is on the increase.

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JOHN WATSON MFG. CO., LIMITED,
134 PRINCESS ST., WINNIPEG, MAN.

In a great many parts of Manitoba the farmers have been selling very many yearlings, calves and other young cattle this winter. The stock has been bought by American buyers and is being taken across the line to be fed by American farmers. The extent of this drain upon the stock-in-trade of our agriculturists is in some localities really alarming, some young with a large per cent. of their young growing cattle, about one hundred head being taken out of some small settlements. Of course, the price paid has been very good, from \$12 to \$15 being paid for yearlings, and the immediate returns are very satisfactory, but it is a question if, with the present prospects, the deal will eventually be found to be a good one. There seems to be no reason why cattle may be fed and developed on American soil to greater advantage than on this side the line. Many of the farmers here are wisely holding their stock, but some are being stripped of a large part of one of the most important of their trading assets.

I came across a new case of the combination of profit with pleasure the other day. A Birtle farmer was out shooting rabbits for his hens. He manages in this way to enjoy the pleasures of the chase, to reduce the rabbit pest, and by supplying his poultry with a bill of fare, including a meat diet, he very largely increases the laying capacities of his hens.

Quite a few horses are being run out in Northwestern Manitoba this winter, and have done very well so far.

G. B.

The officers of the Hartney Agricultural Society elected for next year are: President, R. Jackson; 1st vice-president, W. Laughland; 2nd vice-president, E. Briggs; directors, Messrs. Hill, Duthie, Barber, Hunter, Sibbald, J. W. Alcock, Weightman.

At a meeting held at McGregor, Mr. Clifford said that if the farmers did not give a more hearty support to the local society and its fall show, it should be abandoned altogether. Ultimately it was agreed to push the claims of the society with more vigor, and elected a board of directors for the ensuing year. The following are the officers: President, W. Swan; vice-presidents, J. Wilson and W. Cairns; secretary-treasurer, W. B. Gilroy.

Isaac Young, secretary of the Oak Lake Institute, sends a report, which we give as a sample of several others, for which we have not room this month:—"Wednesday, 23rd Feb., was to have been a field day with the Farmers' Institute, but 'the best laid schemes o' mice and men gang aft aglee,' S. A. Bedford, of Brandon, and W. M. Champion, Reaburn, were present, but owing to the inclemency of the weather it was impossible for farmers at a distance to attend, and under the circumstances it was deemed advisable to largely cancel the meetings. Mr. Bedford kindly consented to return at an early date; but as it was impracticable for Mr. Champion to return, he gave a short but very instructive address to the few who were present, taking up the subject of dairying and its adjuncts. He also showed and explained models of convenient arrangements for feeding calves and pigs, also a model of a machine for stacking hay. This latter is a very serviceable article and is likely to be used by several in this locality on account of its utility and cheapness. It has been arranged to hold meetings on Thursday, 10th March, at 2 p. m. and 6 p. m. Refreshments will be served at the evening meeting, and in addition to Mr. Bedford's address, there will be a mixed programme of music, recitations, etc."

A TERRIBLE STRUGGLE.

Sick people grow tired of taking medicines which barely keep them alive; they want something to put them on their feet, well and strong and hearty; they want to get the upper hand over grim Death and choke all the "scare" out of him.

A medicine that goes right down to the very roots of life in the blood and builds



up a new constitution from the lowest foundation - stone, like Dr. Pierce's Golden Medical Discovery is the only radical, scientific cure for disease. This remarkable "Discovery" produces a rapid increase of the life-giving red corpuscles in the blood, which quickly clear out poisonous elements, stop morbid formations and build up new tissue in the vital parts.

By this deep and searching revitalizing process, obstinate blood diseases, throat and bronchial affections and even consumption, in all its earlier stages, are arrested and permanently cured. The "Discovery" makes solid healthy muscular flesh, without adding a particle of flabby fat like so many "emulsions." It fills out sunken forms and faces, gives color, nerve force and active energy.

Many doctors say that consumption is incurable and necessarily fatal. *They are mistaken.* Dr. Pierce's Golden Medical Discovery will cure 98 per cent. of all cases of consumption, if taken promptly according to directions. It has cured thousands. It is quickly absorbed by the blood and assists nature to throw off germs and all effete matter and restores the body to perfect health and strength. It tones the nerves and invigorates the body. It spurs up the torpid liver and makes the kidneys active. An honest druggist will not urge upon you an inferior substitute.

The "Golden Medical Discovery" is the greatest tonic and invigorator that was ever prepared. It is the discovery of a practicing physician, eminent and successful in his profession, the head of one of the greatest medical institutions in the world, the Invalids' Hotel and Surgical Institute, of Buffalo, N. Y.

"It is now eight years ago since I took Dr. Pierce's Golden Medical Discovery," writes Mrs. Clara A. McIntyre, Box 171, Ashland, Middlesex Co., Mass. "I took a very bad cough, also night sweats, and was almost in my grave, as we thought, with consumption, when a friend of mine who had died with consumption came to me in a dream and told me to take Dr. Pierce's Golden Medical Discovery, and, thank the Lord, I did so. By the time I had taken half of the first bottle I felt much better, I kept on till I had taken two or three bottles, that was all I needed. I got well and strong again."

"I feel it my duty to inform you of the great good I have derived from using Dr. Pierce's Golden Medical Discovery," writes William Miller, of 651 Mulberry Street, Reading, Pa. "For the last nine years I have been very poor in health; suffered with a running sore leg. I tried many kinds of different medicines and doctors, but without relief, until I was told to use your medicine which was recommended to me by a farmer at the market. I went and bought a bottle and had relief the second day. I used that bottle and two others besides and can say that I am entirely cured, and now I can do a good day's work with the next man. I think Dr. Pierce's medicine is an invaluable remedy and one which no household should be without."

"To repeat what I said to John T. Las-

key, Esq.," druggist, of Albion, N. Y., "I would say Dr. Pierce's medicines have been used in my family with the best results, the 'Golden Medical Discovery' as a blood remedy, and the 'Favorite Prescription' for the numerous troubles peculiar to females. I have recommended these medicines to many of my numerous friends, and the result has been, in every instance, like a charm. I talk with many and recommend the medicines on every occasion. I think also that Dr. Pierce's Pleasant Pellets are splendid."

If you want to know hundreds of great medical truths, send 31 one-cent stamps, to cover cost of customs and mailing only, and we will send you FREE a copy of Dr. Pierce's 1,008 page book, "Common Sense Medical Adviser," in paper covers, or for 50 stamps in cloth binding. Address World's Dispensary Medical Association, Buffalo, N. Y.

For Lice on Cattle

The best results with the least trouble obtained by using

"Fleming's Sheep Dip."

This is the most economical and efficacious.

You cannot get good results from feeding stock unless you keep them free from vermin.

For reference, write to J. E. Smith, Esq., of Brandon, and Hutchison Bros., of Hayfield.

Quart Tins, 75c.; ½ gal. Tins, \$1.50; 1 gal. Tins, \$2.50.

IT WILL PAY YOU TO TRY IT.

Fleming's Drug Store

BRANDON, MAN.

Large English Berkshires.



I have a number of fine Sows due to farrow in March and April, bred to prize-winning boars. These are mature stock, large, lengthy, deep-sided modern type Berkshires, sure to produce first-class pigs. I am now booking orders for spring delivery. Correspondence solicited.

Address—

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NEEPAWA, MAN.

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Write for our new Annual Announcement and College Journal.

Business Practice a special feature of our course.

No entrance examination required. Students may enter any time.

G. W. DONALD, Sec'y.



\$10 CASH (100 Egg Size) ON TRIAL \$11. "2 hatches from \$10 machine, 86 and 99 chicks from 100 eggs each." Mrs. F. Vollrath, Lockport, Ill. Send 4c for No. 91 catalogue of 35 ones. Buckeye Incubator Co., Springfield, O.

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Butter Paper

ALL SIZES
PRINTED OR PLAIN
BEST IN THE WORLD

Write for Prices to

THE STOVEL CO.

WINNIPEG

Live Stock Impounded.

Sec. 27, Tp. 4, R. 24—One mare, color gray, no mark visible. John A. Burgess, Lauder.

Elton, Pound on Sec. 1, 11; 19—One gelding, color bay, aged, white hind feet, white star on forehead. John W. Pottinger, Brandon.

Minnedosa, Pound No. 1—One horse, color bay, aged, white hind feet; one filly, color bay, 2 years old, off hind foot white. Adam St. John.

Portage la Prairie, Pound No. 15, S. W. $\frac{1}{4}$ 17, 12, 7w—One steer, color red, white star on forehead and some white on belly, about two years old. John McKay, Portage la Prairie.

S. E. $\frac{1}{4}$ Township 10, Range 4 E.—One cow, color dark red, white on back over rump, brindle face, white udder and white under belly, small notch on point of right ear, point off the right horn. P. K. Dickson.

Springfield—One calf, about 10 months old; one steer, color red, with a little white on back and sides, white belly, small spot on forehead, and a little white on tail, piece cut out of the under side of left ear, point cut or frozen off right ear. S. Parsons.

English Shire Horse Show.

The 19th show of the Shire Horse Society was held at London on the 23rd-25th of February. There were 526 entries, and the females especially had some splendid examples of the breed. In yearling colts, with 44 entries, the 1st prize went to Moore's Regent, a very big colt with indifferent action, 2d to Lord Langatock's Hendre Conqueror, a son of Prince Harold. The Scotch judges favored a commended colt, Hixon Royal Stamp. In 2-yr-olds, 55 entries, an easy 1st was Henderson's Buscot Harold, son of last year's champion, Markeaton Royal Harold, and a \$2,020 mare, Aurea; 2d to Eadie's Barron Darnley; 3rd to Pioneer 7th, owned by Sir J. Blundell Maple, one of the wealthy fanciers who has spent much money in the business. In 3-year-olds, 68 entries, Parnell's Watnall Chancellor, a last year's winner, was again 1st; Lord Rothschild's Cotheridge Swell 2d; Lord Hothfield's Valentine 3rd. In 4-year-olds, 45 entries, Rowell's Bury Blood Royal 1st, Stubbs' Blaisdon Conqueror 2d, Moore's Zealot 3d. In aged stallions under 16.2, 32 entries, Muntz's 9-year-old Bounding Willow 1st, Whitehurst's Markeaton le Bon 2d, Forshaw's Carlton 3d. In aged stallions over 16.2, 40 entries, Henderson's Markeaton Royal Harold, last year's champion, was an easy 1st; Forshaw's Carlton Melton 2d, Wainwright's Burston Albert 3d. In 10-year-old stallions and over, 16 entries, Lord Rothschild's Coeur de Leon 4th was 1st, the 11-year-old Dunsmore Willington Boy, a frequent winner of very high honors, 2d, and Forshaw's Downham Ben, last year's winner, 3d.

In mares, over 50 entries for 2-year-olds, Duncombe's Boro Royal 1st, Cavendish's Southgate Gem 2d. In 3-year-olds, 40 entries, Henderson's Lockinge Loiret 1st, Lord Ellesmere's pair of Junos 2d and 3d. These are by Vulcan of Worsley, a grand horse that met his death at this show two years ago. In 4-year-olds, Grandage's Queen of the Shires was again at the top; Maple's Miss Constance, a \$3,750 purchase, 2d. Mares under 16.2 and over 5 years old, 20 entries, a beautiful mare, Satin of Hothfield, 1st; Lord Wantage's Blackpool Breeze 2d. In mares over 5 years old and over 16.2,

Henderson's Aurea was an easy 1st, Czarnick's Emblem 2d.

The championships were piled all for the first time on the exhibits of one man, Alex. Henderson, of Buscot, Berkshire, one of the Scotchmen who went south a few years ago to try their hands at English farming. Hundreds of thousands of dollars have been spent on Shires in the last few years by aristocrats and millionaires, from the Prince of Wales downward, but sound horse sense has in this case triumphed over everything, and the applause as he led out his string of champions was immense. The list of his special honors, besides their 1sts in class, were Challenge Cup, value £105, for Buscot Harold, as best stallion in the show; his sire, Markeaton Royal Harold, reserve. Champion Cup for best in show, £25, again to Buscot Harold. Cup, value £20, for best young stallion, again to Buscot Harold. Cup, value £20, to Markeaton Royal Harold. Challenge Cup, value £55, best mare or filly, Aurea. Cup, value £25, for best female, Aurea. Cup, value £10, for best aged mare, Aurea. Cup, value £10, for best filly, Lockinge Loiret.

At this year's summer fair to be held at Brandon, July 19-22, a first prize of \$100, and a second of \$50, will be offered for the best 25 bushels of Red Fyfe wheat grown by the exhibitor in 1897.

J. A. McGill, Neepawa, has recently added to his herd of pure bred Berks a pair of English imported prize winners, whose combined winnings at the leading Ontario shows amounted to 22 firsts and 1 second prize. Mr. McGill proposes to issue shortly a detailed list of the stock he has to offer, and any one giving him their order may rely on having thoroughly fair dealing and everything sold as represented.

The Macdonald creamery will go on for another season, with D. W. McCuaig as secretary and manager. Special efforts will be made to secure greater cream supplies. Two farmers of the district, who made and sold their own butter last year, were asked by the secretary to come to the meeting and give the result of their operations, for the purpose of comparing it with that of the creamery, but both failed to report, leaving the inference to be drawn that the comparison would be unfavorable to the home manufacture.

Hail Insurance.

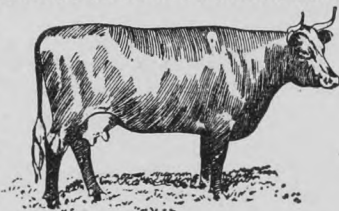
The Provincial Hail Insurance Co. has elected the following board for the current year: John Renton, Deloraine; T. L. Morton, Gladstone; C. J. Thompson, Virden; F. Shultz, Baldur; James Molland, Glendale; H. B. Brown, Morden; Robert Strang, Winnipeg. The directors meet in March for re-organization. The report contains the following: "The acreage insured was 43,105 acres and number of policies issued was 597. The notes received amounted to \$10,776.25, and the number of claims made was sixty, which were adjusted at \$6,664.45. As in former years, a great many farmers who were not insured suffered loss by hail, thus again showing that farmers should insure their crops against this source of loss. Your directors, during the year, have been able to pay up the balance on the losses of 1893, and also the balance on 1895 losses, and have paid 50 per cent. of the losses of 1897. The balance of 1897 losses your directors expect to pay at an early date. When this is paid the company will be clear of all liabilities."

The name of the Manitoba Horticultural Society has been changed to the "Western," so as to embrace the Territories as well.

It is reported by the Edmonton Plain-decalr that H. Vizina had Lodoga wheat 50 bushels to the acre, and E. Lewis also had 50 bushels of velvet chaff. Thirty to 40 bushels all round was common.

The Yorkton Enterprise says the patrons of the creamery there are up in arms and propose to go on strike. Their final cheques, just to hand, show only 9.9 cts. a pound to the patrons after cost of hauling has been paid for.

At a recent institute meeting held at Neepawa, W. F. Sirett, M. P. P., read a carefully prepared paper, showing that wheat growing cost \$8.35. The discussion that followed went to show that several farmers thought Mr. Sirett's figures too high. It was shown that a good farming outfit costing \$1,000 eight years ago could now be had for \$700, and it was the opinion of the institute that \$7 per acre was about the cost per acre of raising wheat at the present time.



A Combination Dairy Cow

The common cow is generally very hardy but even her robust constitution will be the better and stronger, and her dairy value enhanced manifold

if during the winter you add some of

Dick's Blood Purifier

to her feed. It sharpens the appetite of an indifferent eater, tones up the system, strengthens the generative organs, and keeps her in good health for the Calving Season.

50 cents a package.

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There Is No Doubt About the MERIT of DEHORNING
It cuts both ways, does not crush. One clip
and the horns are off close. Write for circular. The Keystone Dehorner Mfg. Co., Picton, Ont., Can.

THE KEYSTONE

DEHORNING
—KNIFE—

Grasses.

Of economic grasses we in the North-west have perhaps the best varieties for our purpose that can be found for twenty years. The grass that suits one soil will not suit another, and it becomes therefore a necessary part of the work of naturalization to find out the grasses and soils that best suit each other.

So important does this work of grass culture appear to the legislature of the U. S. that last year a department of agrostology was started, with an annual appropriation of \$15,000, and a garden provided at Washington, D. C., for the work of experimentation and cultivation. In this garden every variety of native grasses, wild and cultivated, and many from foreign countries will be collected, cultivated and experimented with. The Connecticut Experiment Station has taken in hand to assist the work partially on the same lines carried on for the last thirty

tion published, that the main object of this Connecticut experiment is to produce fine lawns.

The state grounds at Washington are in the meantime devoted solely to the collection and production of seeds, and will naturally look a little ragged to the mere chance visitor.

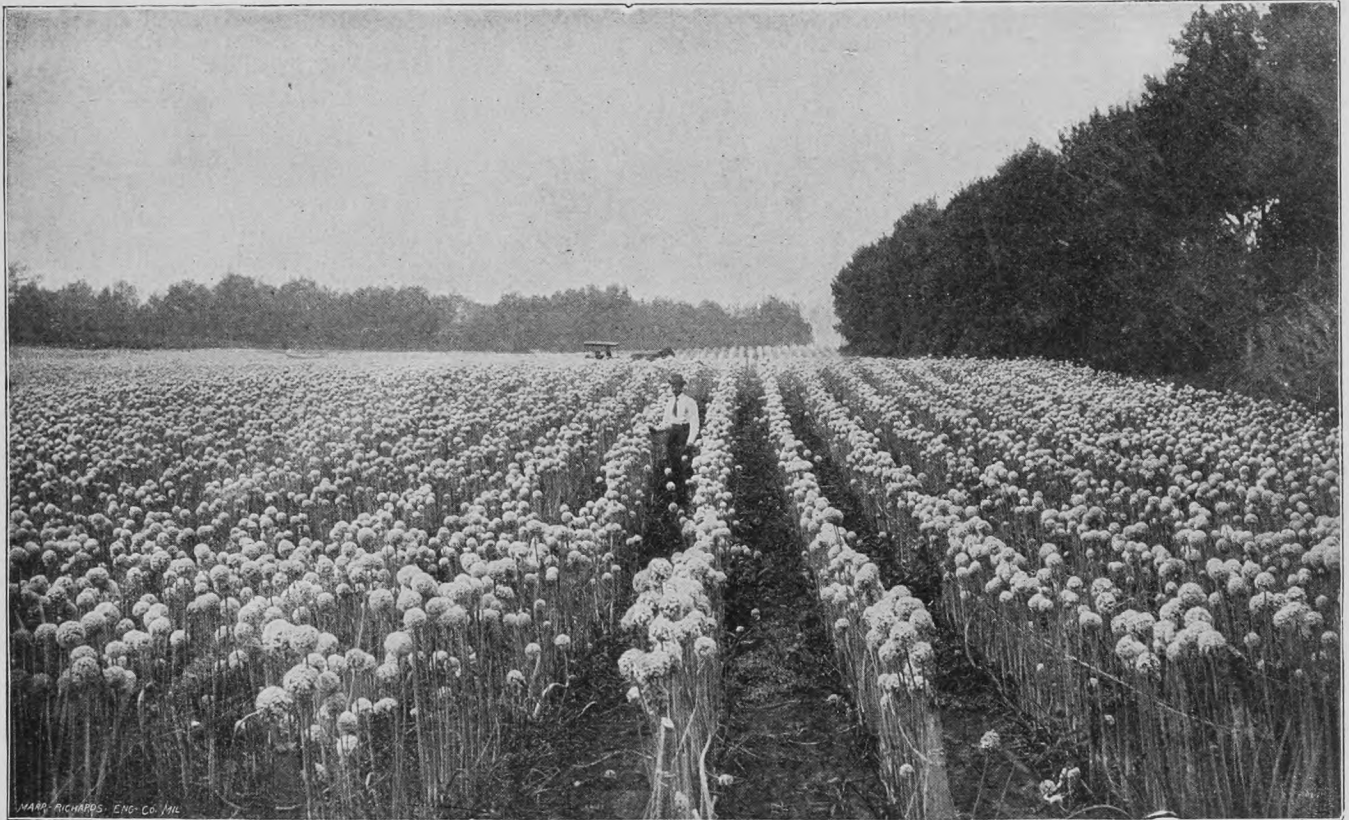
In England the Earl of Winchester has an experimental farm at Sleaford, on which, in addition to the collection of foreign as well as English grasses, experiments are being made along the line of hybridizing both cereals and what are more commonly called grasses. It is claimed for these experiments as made by Mr. Garton that some very promising results have already been reached. Just how much there is actually in them time will demonstrate.

Readers would do us a good turn by mentioning The Nor'-West Farmer when writing our advertisers.

for her own internal peace and social order. Her courts are made up from her own citizens, appointed by authorities, themselves of her own citizenship. In every syllable of her political constitution, in every square mile of her territory, she is absolutely a self-governed people. The British flag is her flag only by choice, the British crown her sovereign only in name."

Hens Eating Their Eggs.

D. G. Lowe, Union Point, Man., has had trouble in years past with hens that ate their eggs—a too common complaint at this season. He thinks he has got even with them now. He has arranged the roosts with laths just wide enough apart to allow an egg to drop through. This is raised from the floor about one foot. The hens are confined to this until after noon hour. As they must lay, they have



The gardens of Grant Bros. near Hudson, St. Croix County, Wisconsin, occupy more than 200 acres. Our view shows ten acres of onions planted for the seed.

years by J. B. Olcott, of South Manchester, Conn., in the cultivation of what he calls "turf gardens." The basis of this turf culture is practically the old English grasses and clovers imported often more by accident than of set design, by seeds in the packages of the earlier immigrants. These he propagates not by seed, but by cuttings from the parent plants, whose true character he has first made sure of. Hundreds of turfs collected from European swards have been collected, tried, and assorted. The more familiar varieties are: Of *Agrostis*, 500; of *Festuca*, 300; of *P. pratensis*, 150; of *P. trivialis*, 100; of *Lolium*, 100; of *Dactylis*, 75; of *P. anna*, 50; and many other sorts have been tested, side by side, in this turf garden.

A great number of clovers are also collected and propagated in the same way, and the weeds are kept down by combined machine cutting and hand weeding. In 1896 the turf thus formed was mown 92 times, and it appears, from the informa-

A Free Country.

Here is an ad. cut from a Dakota exchange and inserted there by the local Canadian emigration agent. It has the rare merit of coming from an enlightened American, and is also perfectly true.—

CANADA AS HIS EXEMPLAR.

Hon. P. S. Grosscup, Federal Judge, Circuit Court, recently said in an address: "Canada is, in every practical feature of independence, as self-governed as if she acknowledged no allegiance to the British crown. She sends no representative to the Parliament house on the Thames. Great Britain sends none to the Parliament house on the Ottawa. She pays no taxes into the British exchequer; she receives none from any people outside of her own boundaries. She is touched by no law relating to her trade, her development, or her liberty, except such as comes from her own legislative assemblies. She fixes her own internal affairs, stands spon-

accustomed themselves to do so on this platform. Under this he has a good supply of chaff and hay, which is cleaned out every two or three days. The eggs drop on to this hay and do not break. The hens still cackle as cheerily as ever, but he gets the fruit. Come again, friend David.

Henry Simmonds, of Bearwood, chairman of the English agricultural delegates who visited Manitoba in 1890, has just died at the age of 65.

The Farmers' Institute at Melita is going to start a library, \$30 having been appropriated for that purpose. A. D. Wheeler will be librarian.

The Edmonton Bulletin has the following: "M. Lambert threshed for Mr. Butler Throssell, last week, red fern wheat that averaged 88 bushels per acre. This is a fact which can be proved beyond a doubt—and not a fish story—Mr. Throssell's postoffice is Duhamel."

Dry Curing for Bacon.

The dry process of converting pork into bacon makes an excellent article, sweet and firm. Every one knows how different is the taste of fresh dry salt from that of in a dissolved state.

After the carcass of the hog has been divided, place the pieces of pork intended for bacon to one side. Rub them well with coarse salt, and let the blood drain for 24 hours. Mix $1\frac{1}{2}$ lbs. coarse brown sugar, 6 oz. saltpetre, and $1\frac{1}{2}$ lbs. of salt. After these ingredients are well mixed, rub into the pork well, especially on the flesh sides. Pile these pieces of pork on top of one another in a salting trough, with a groove or gutter round its edges to drain away the brine. To allow this brine to soak into the meat will impart a vile taste. Turn the meat every two days, rubbing in more of the salt and sugar preparation. The proportion given is sufficient for 14 lbs. of bacon. The sugar possesses preserving qualities in a very great degree, without the pungency and asstringency of salt, and imparts a mildness and mellowness to the cured meat. Too much salt contracts the fibres of the meat, thus rendering it hard and tough. The meat remains in this state two or three weeks, according to circumstances. In dry weather it requires a longer time than during damp weather.

The place for salting should always be cool, but well ventilated. Confined air, though cool, will taint meat sooner than the midday sun, accompanied by a breeze. When the meat is sufficiently salted, wipe it dry and smoke for two or three weeks, according to size. The meat must be hung to smoke in a dry place, where no water will touch it, and the smoke must proceed from wood. Before you hang the meat to smoke, rub the flesh side well with bran. This prevents the smoke from getting into the little openings and makes a crust that dries on. As to time required to smoke the bacon, it depends upon the size, and whether there is a constant smoke. If the smoke is constant and rich—from hard wood—it requires about two weeks' time. The bacon must not be dried up, and yet it must be perfectly dry.

Subsoil Plowing.

A good deal has been learned both in the old country and America about subsoiling, sometimes at considerable cost to the experimenters. It is now almost a quarter of a century since, on the assumption that much plant food was carried by rains into the stratum of soil not usually reached by the plow, the Fowler steam plow was used by wealthy farmers to turn over double the depth possible by the older cultivators. The effect of this was that the six inches of new soil turned up to the top was found quite unfit to grow a profitable crop, and it took years of exposure to the air, as well as special manuring, to restore land so treated to its original productiveness. To bring up an inch or two at a time would have been all right. The system recently introduced in the Western States is much more accordant with sound science and experience. This newer form of subsoiling does not mean turning down the surface soil and turning up the subsoil on the top of it. That would do a good deal of harm. The crude material so brought up has not had enough air to prepare it as plant food and may be in itself very deficient in some essential food elements, especially humus. To subsoil for best results, as little as possible of the surface soil should be turned under. It should, however, be clean turned once and the layer below it well stirred to a greater or less depth, as

is found practicable, and left so. The chief benefit of this sort of subsoiling is to open up the less impervious stratum that lies below the reach of ordinary plowing in such a way that by the action of air, moisture and frosts it may be brought into a condition that will enable it to hold the greatest quantity of moisture and at the same time permit the free circulation of air around the roots of the plant.

In the growth of trees, for example, the repeated movement of the soil caused by the leverage of the roots under the action of the wind has very much the same effects as results from subsoiling. There is no transposition of the different layers of the soil, only a loosening proportioned to the amount of wind power that is brought to bear on the branches and leaves of the tree. The decaying vegetable matter, a leading ingredient in the food of the tree, always stays on the surface, and the small fibres of the roots come up to feed upon it. But another set of roots reaches down deeper and deeper, mainly to bring up moisture, without which as a diluting agent food cannot readily be made available. The work done by the leverage of the tree is of very much the same sort as is done by good subsoiling. What the tree keeps doing for years subsoiling will do by one process for the plants which must produce their full growth and perfection in a single season.

There is a wide range in the character of soils, and some soils are such a happy combination of sand and loam as to be readily pervious to both air and moisture, but this combination is not common, and the leading advantage of subsoiling has been its power to protect crops from the effects of extreme and protracted droughts.

The best season for subsoiling is evidently the fall. Once stirred by the subsoil plow the moisture and frost together will reduce the soil so stirred to fine particles, through which the air and moisture and the roots to be benefited can freely pass. Some plants have in their roots much greater penetrating power than others, but subsoiling will do at one process and more effectually what is only partially and slowly done even by the most penetrating kind of roots.

The best way is to send round an ordinary plow and turn over an ordinary furrow at the ordinary depth, following in the same furrow with a subsoil plow of some sort that will stir a few inches of the next stratum of soil and leave it in the same position. An ordinary plow without the moldboard will do this fairly well.

The Irrigation Laws.

An arrangement has been completed with the Minister of the Interior by the Territorial Government by which the provisions of the Irrigation Act regarding the record of water rights will in future be administered by the Territorial Department of Public Works, and the work connected therewith centred at Regina. In the past, applicants for water rights have had to file their applications at Calgary and in the different land offices as well as in the Department of the Interior at Ottawa. Under the new arrangement all papers and plans connected with applications will be filed at Regina, and it is intended to amend the Irrigation Act at the present session of Parliament so as to materially simplify the present cumbersome procedure of obtaining water rights. The new arrangement will have the merit of placing the administration of the Act in the Territories in the hands of a department closely in touch with, and in easy reach of, the people interested in this important question, and also will permit of

the utilization of the services of J. S. Dennis, D. T. S., who has been closely connected with the subject of irrigation since its inception in the Territories. It is understood the Territorial Government are desirous of encouraging in every way possible the introduction of irrigation in the arid portions of the Territories, and it is believed that a simplification of the Act regarding the record of water rights, and an intelligent and prompt administration of its provisions from Regina, will result in renewed interest in this important matter and a material increase in the area of irrigated lands during the coming summer.

The Irrigation Survey Office is in the meantime to be retained at Calgary, the surveys being prosecuted under Mr. Dennis' direction by A. O. Wheeler, who has been engaged on this work for some years.—Lethbridge News.

Change of Environment.

Prof. Haecker, of the Minnesota experimental station, says: "I have never yet purchased a fine, sensitive cow, and removed her away from her former surroundings when she would do good work for the first year. If she was an old plug, and had no fine nervous system in her make-up, she would not care where she was, and would be just as poor a cow the first year as the second." The exhibitors of cows, in milking tests at the fairs, always find that their cows never give within ten pounds as much during the test as they did before they left their own stables. The milk is not as rich in butter fat, either. Not knowing this peculiarities of the sensitive nature of a cow, has lost some exhibitors the prize they were working for. Hoard's Dairyman suggests that when anyone buys a sensitive cow, that he pursue the following course with her:—"Let the person who is to milk her make a practice every morning of giving her a good carding, so as to produce in her a sense of comfort. We have tried this many times on newly purchased cows for the purpose of preventing them shrinking their milk from home-sickness. It causes the cow to feel very kindly towards her milker, and very soon creates in her a feeling that she has gained by the change. It is worth all and more than the little trouble it takes to do the card act."

The County of Dennis Agricultural Society has fixed the 11th and 12th of October as the dates of their show for the coming year.

Jas. Bray, Longburn, held a very successful sale of Jerseys on Friday, 11th inst. He has decided to give up dairying, for the present at least.

A dispersion sale of pure-bred stock will be held at Major-Gen. Wilkinson's farm, west of Birtle, on Wednesday, Mar. 23rd. See advt. elsewhere in this issue.

Prairie Home Stock Farm, CRYSTAL CITY, MAN.



**Shorthorn and Ayrshire Cattle.
Shropshire Sheep.
Yorkshire and Berkshire Swine.**

Correspondence solicited.

THOS. GREENWAY, PROP.

Farm Yard Manure, the Scientific Side.

By Jas. Hendrick, B. Sc.

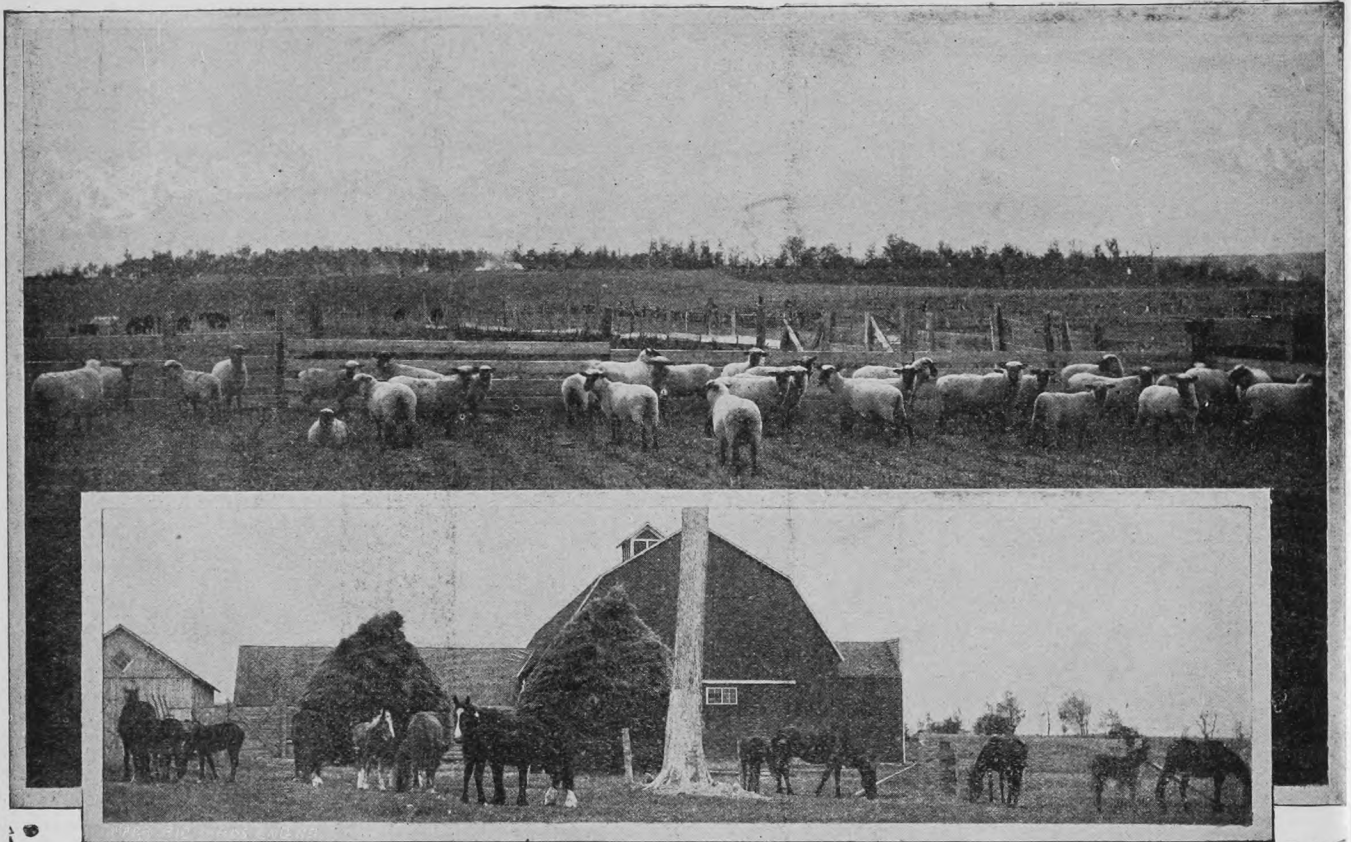
Farmyard manure occupies a peculiar position among manures. It is not only the most important of manures, but its importance is of quite a different and much higher order than that of any other manure. It is the first manurial necessity of any proper system of high farming, and other manures are merely supplements to it. In it we restore to the land, so far as possible, the valuable substances we have temporarily removed from it; other manures only make up the necessary deficiencies. Farmyard manure has also special uses of its own, not shared by any artificial, in maintaining the humus matter of the soil. In this country, too, where we import so much concentrated

He showed—and others who investigated the matter agreed with him—that in the rotting of dung under good conditions, though, roughly speaking, about one-third of its weight was lost, there was very little loss of the valuable constituent nitrogen. At the same time, a considerable part of the nitrogen passed into the valuable form of ammonia. To begin with the nitrogen is contained in the urine, dung, and straw in less valuable forms, but during the rotting the nitrogen of the urine very readily passes into the form of ammonia, and a little of the nitrogen of the dung, and perhaps of the straw, undergoes a similar change. The final result was that the nitrogen was in a form more readily of use to plants in the rotted than in the fresh dung. It was shown that there were two great dangers of loss of nitrogen from the dung. First, the loss of liquid runnings from the manure heap, which contain a lot of the most valuable part of the nitrogen; second, the

J. O. Barrett, secretary of the State Forestry Association of Minnesota, died recently. He was one of the oldest and most trusted supporters of the principle of improved forest management.

One of Professor Shaw's latest pointers is that farmers should try a few acres of their wheat this year with one pound or less of rape seed sown in to the acre. It may be difficult to get an even seeding with so small a quantity of fine seed among the wheat, but we hope a few men will give it a trial.

The other day a farmer near Neepawa found his stable full of smoke rising from empty bags in the feed bin, into which it is probable a match was dropped while feeding the horses in the morning. Another half hour, and with a good big blaze and the owner from home, we would have heard of a mysterious and destructive farm fire.



Our Lower View shows a group of pure bred Shire and Cleveland bay mares with colts, on the Neillsville Stock Farm, Wisconsin. Above is a flock of pure bred Hampshire Down ewes on the same farm, feeding on rape.

food, dung has a special value, for it is in the dung that the fertilizing ingredients of these valuable foods, drawn from foreign soils, should find their way into our soil. The nitrogen which this country loses through preventable or unpreventable waste, from farmyard manure alone, is far greater than all the nitrogen which it purchases in nitrate of soda. It is a mistake to suppose, as is sometimes done, that science leads to the undervaluing of dung. Science certainly has brought to agriculture many artificial concentrated manures, and it teaches us how to use these wisely to supplement dung. But there is no subject in agriculture to which scientific attention has been oftener turned than the nature of dung, and the means of preserving and using it for the best. The late Dr. Voelcker, among many of the older generation of agricultural chemists, subjected it to very thorough investigation, not in mere pot experiments at artificial temperatures, but on the large scale in the dung heap and in the field.

loss of ammonia into the air in the form of vapor. Ammonia itself is a gas which at once dissipates in the air, but the ammonia formed in rotted dung is in the form of the solid compound of ammonia (carbonate of ammonia), which is used by ladies for head salts. This substance is constantly liable to loss of ammonia as vapor in the air. This second loss, then, could only take place as the decomposition of the manure advanced and carbonate of ammonia was formed. But when the manure was well and carefully prepared, it was shown that the total loss of nitrogen was not very great. On the other hand, carelessness of preparation might lead to very serious loss. Since the time when Dr. Voelcker and others established these facts we have learned a great deal, but all our new knowledge has only served to explain these early findings and confirm their truth.

When writing advertisers, mention The Farmer

A vote for \$2,000 has been put in the estimates of the N. W. Territories to aid in weed suppression. Minister Ross, in moving it, said there were many farmers who did not take the precautions they should take with respect to weeds. It was found that local weed inspectors were of very little use—for obvious reasons. Men did not like to take the risk of the enmity of their neighbors. The government proposed to appoint inspectors. Such inspectors would act in any districts assigned to them. The vote was not large—only \$2,000. It was simply to make a beginning. Within the vote they would be able to employ about fifteen men for 40 days each at \$3 per day for man and rig. There would be a balance of \$200 to be devoted to disseminating information respecting weeds. Sometimes particular weeds were allowed to spread because people did not understand their danger. The bulk of the vote would be spent in the great wheat area of the eastern portion.



Imitation.

It has been said that imitation is the highest form of praise, and while we do not doubt the truth of the statement, we do much regret that it so often works against the best interests of individuals in a business way. The laws controlling the issuance of patents are designed to insure to inventors the exclusive use and rights of their inventions for a term of years, holding that he who by his industry or ingenuity works out new methods or plans for the accomplishment of certain ends, should be entitled to the exclusive use of the same for a certain specified period. When another, seeing the advantage of such patented process, machine, or appliance, himself manufactures or sells, or causes to be manufactured or sold, an imitation or fac simile of the original, he is infringing the rights of the inventor and is amenable to action by law. Our attention has just been called to a case of this kind where one of our patrons is the sufferer. A certain concern is manufacturing and selling a dehorning clipper which infringes the rights of Mr. A. C. Brosius, of Cochraville, Pa., in the manufacture and sale of his Keystone Dehorner which has been advertised in these columns each season. The infringers have been refused letters patent by the patent office at Washington, and Mr. Brosius has brought action against them which will shortly come up in the U. S. District Court. We very much regret that the rights of our client are thus being denied him, as the Keystone is a splendid implement for the object of its design and is very popular with the public.

Frank Leslie's Popular Monthly for March.

The propagation and cultivation of fish by the Government is interestingly and instructively described by Joanna R. Nicholls Kyle in Frank Leslie's Popular Monthly for March. The article has the felicitous title, "Aquatic Protoges of Government," and is profusely illustrated. The same magazine contains an important paper on "The Congregationalists," setting forth the history and growth of that denomination in this country, by Rev. A. E. Dunning. This also is accompanied by many fine illustrations. The fifth paper in the series on Andrew Jackson is the second part of A. Oakey Hall's account of "Jackson as a Statesman and President." The illustrations to this article include reproductions of rare paintings, miniatures, cartoons, etc. "Massachusetts Before the Mayflower" is the title of an article in which Francis Worcester Doughty chats entertainingly of the early history of the Eastern State, and gives maps and views from old copperplates. Helen Bradford describes the life and people of Christiania. The city of New Orleans furnishes the subject for a long and superbly illustrated article by Charles Thomas Logan, who calls that city "the quaint and unique Metropolis of the Southwest." Another elaborately pictured article is one on Harvard University, by L. W. Sheldon. A new serial story, the scene of which is laid in Revolutionary times, begins in this number. It is called "Marie Tremaine," and is by

Frances Swann Williams. There are a number of clever short stories, some good poems, and an attractive young folks department. — Frank Leslie's Publishing House, New York.

Here is Success for You.

"Inside figures" are always interesting, and the following are certainly some striking ones about The Ladies' Home Journal. During 1897, 8,183,113 copies of this magazine were printed and so thoroughly sold that the latter-year issues are entirely out of print. It consumes 3,434,362 pounds of paper in a year, and absorbs 30,902 pounds of ink. It runs 28 presses. The advertising columns contained \$498,325 worth of advertising during the last year. The editors received 9,290 manuscripts and less than 1 per cent. were accepted. The magazine employs 22 staff editors. 24,648 letters have been received and answered in the year by the editors of the correspondence columns. The Journal has over 15,000 active, working agents on the road getting subscriptions. It has educated 442 girls free of charge under its educational plan. In a single day it has received as high as 18,000 subscriptions. 300,000 copies of the Journal are sold each month on the news stands alone—425,000 people subscribe for it by the year.

Results were Extraordinary.

Wapella, N.W.T., Feb. 13, 1897.

I keep your Gombault's Caustic Balm in stock. I have sold it for the last three years. I have been in the drug business in Ontario and this country, but it is not known to the majority. I sold a bottle which I saw used under my own supervision, giving universal satisfaction. The results were extraordinary. I sell it here at \$1.50 per bottle. I am quite a horseman and would be pleased to use any pictures of the noted racers of the day, to our mutual benefit.

J. A. MACDONALD.

A Canadian, Reston, writes: "In your Nor'-West Farmer for February, R.W.M., under the heading of Pipestone and Reston, gives several of the Scotch settlers in this district some well-deserved praise for having established comfortable homes for themselves under trying conditions generally met with in a new country. But when he adds, 'If they had been Canadians, they would have left the country long ago,' I think he makes a statement that (even if it were the truth) might better have been left unsaid by a man that visits Farmers' Institutes throughout the province, besides writing for a paper that 'wisely abstains from party politics.' Wishing your paper a good circulation among the farmers. I like it, and believe every farmer should take it."

[The publishers agree with "Canadian" that the remark objected to would have been better left out.]

Messrs. R. A. Lister & Co. are issuing their season's catalogue, embracing all sorts of dairy machinery and requirements, which, we need hardly say, are all of the best quality manufactured and up to date in efficiency. This catalogue covers 50 pages, in which are given drawings and descriptive price lists, and last, but not least, the testimonials of a good many customers as to the usefulness and reliability of their appliances. One of the most important of these is from Dairy Commissioner Robertson.

Western Manitoba's Big Fair at Brandon will be held July 19, 20, 21 and 22. A large amount will be offered for prizes this year, and increased accommodation for all kinds of exhibits.

A man's wife should always be the same, especially to her husband, but if she is weak and nervous, and uses Carter's Iron Pills, she cannot be, for they make her "feel like a different person," so they all say, and their husbands say so, too!

Must not be confounded with common cathartic or purgative pills. Carter's Little Liver Pills are entirely unlike them in every respect. One trial will prove their superiority.

Seekers after gold are often disappointed. Seekers after health take Hood's Sarsaparilla and find it meets every expectation.

At Pilot Mound recently, Mr. Bissett sued Derocher, a thresher, for the loss of two stacks of wheat destroyed by fire started by his threshing engine. At the trial, although there was no direct evidence as to the origin of the fire, the judge held that it was proved that it was caused by sparks from the smoke-stack of the engine, and it was also proved that the engine was very much out of repair. Upon this there was a verdict for the plaintiff for the estimated value of the wheat and straw, with costs.



When Lady Marie Wortley Montague visited the household of the Sultan, she wrote home to England that the ladies of the harem were smothered with laughter to discover that her ladyship wore an inner vest of steel and whalebone, tight, impenetrable and stifling, in other words, a corset. The ladies of the harem would no doubt have been

equally astonished, though perhaps not disposed to laughter, had they known that the women of western nations, through false ideas of delicacy, suffer in silence untold agony, and sometimes death, through neglect of their health in a womanly way. Women, who suffer in this way shrink from the embarrassing examinations and local treatment insisted upon by the majority of physicians. If they only knew it, there is no necessity for these ordeals. An eminent and skillful physician long since discovered a remedy that women may use in the privacy of their own homes. It is Dr. Pierce's Favorite Prescription. It acts directly on the feminine organism, giving it strength, vigor and elasticity. It stops all debilitating drains. It is the greatest of all nerve tonics and invigorators for women. Thousands of women who were weak, sickly, petulant and despondent invalids are to-day happy and healthy as the result of the use of this wonderful medicine. Good druggists do not advise substitutes for this incomparable remedy.

"I have used Dr. Pierce's Favorite Prescription and 'Golden Medical Discovery' in my family," writes Mrs. G. A. Conner, of Alleghany Springs, Montgomery Co., Va., "and have found them to be the best medicines that I ever used."

Send 31 one-cent stamps, to cover cost of mailing and customs only, to the World's Dispensary Medical Association, Buffalo, N. Y., for a paper-covered copy of Dr. Pierce's Common Sense Medical Adviser;—Cloth binding 50 stamps. A whole Medical library in one 1000-page volume.

Water and the Soil.

By M. Whitney, U.S. Dept. of Agriculture.

Water is the most abundant substance found in living crops. Not only does it form by far the largest proportion of all fresh vegetable substance, but, on account of loss through evaporation from the leaves of growing plants and the necessity or replacing this loss, thirty or forty times more water is needed during the growing period of a crop than is contained in the crop when harvested. Plants require a large amount of water for their life and growth, and it is necessary that the supply be abundant at all times. If the evaporation from the plant greatly exceeds the amount taken in through the roots the leaves wilt and the plant suffers.

Therefore, one of the most important functions of the soil in its relation to crop production is the maintenance of a proper supply of water. The best of all means of maintaining this supply is a comparatively regular rainfall. As plants are fixed in their relative positions in the earth, the soil, in order to supply them with water during the fair weather period, has to offer such a resistance to the percolation of the rain that an adequate supply shall be held back. On account of this resistance, due to the friction which the rain encounters in the minute spaces between the soil grains through which it has to pass, the movement is very slow and only part of the water sinks below the reach of plants before the next rainfall occurs.

The resistance which soils, owing to their difference in texture, offer to the percolation of the rain varies greatly. Light, sandy soils maintain comparatively little moisture, because the spaces between the grains are comparatively large and there is relatively but little resistance to the flow of water, so that the rainfall moves down quite rapidly until there is only 5 or 10 per cent. of moisture present in the soil. Strong clay soils, on the other hand, have very minute spaces for the water to move through, and consequently offer a very great resistance to the percolation of the rain. These soils maintain, as a rule, from 15 to 20 per cent. of their weight in water.

Different plants grow best with different amounts of water. For instance, the pasture grasses thrive on a soil which is too moist for Indian corn, or even for the largest and choicest yield of wheat.

While water is maintained for a while in the soil, as already explained, it is liable to be lost in the growing crop by evaporation from the surface of the ground or by being used up by weeds. The end sought in plowing and cultivation is to control the water supply by removing weeds and leaving the surface of the soil covered with a loose, dry mulch to retard evaporation. Many of our crops require no subsequent cultivation after they are put into the ground. Wheat, oats, rye, clover, grass, forest trees, and, in general, such crops as cover and shade the ground are not, as a rule, cultivated during their period of growth. On the other hand, such crops as corn, roots, and fruit trees, require cultivation during their early growing period, although even with these crops cultivation ceases after they have attained considerable size, and is rarely practised during the ripening period.

The principal object of plowing is to loosen up the soil, for four purposes: (1) to enable the soil to absorb the rainfall more quickly and more freely than it would in its undisturbed condition; (2) to maintain more of the rainfall near the roots of plants; (3) to admit fresh air to the roots of plants; (4) to enable the roots of the young or quickly growing

plants to penetrate the soil more easily.

The principal objects of subsequent cultivation, whether with plow, cultivator, harrow, hoe, or rake, are (1) to prevent loss of water by weeds and grass, which use up great quantities; (2) to keep the surface covered with a loose, dry mulch in order to prevent, as far as possible, loss of water by evaporation. Water is thus conserved for the use of crops, and the supply is more abundant and more uniform than it would have been without the cultivation.

A soil with a compact surface quickly dries out, and the water supply fluctuates rapidly and excessively, to the detriment of most crops during their growing period. Weeds and grass are generally to be excluded from the crop, because they transpire great quantities of water which would otherwise have been at the disposal of the crop. Some of our crops, therefore, do not require cultivation, because they shade the ground and prevent evaporation and prevent grass and weeds from springing up and diminishing their supply of water, or because they are deeply rooted and can bring water up from considerable depths. Other crops cannot protect their water supply in this way, and it must be artificially controlled by methods of cultivation.

To Struggling Young Men.

Take care of yourself; nobody else will take care of you. Your help will not come up two, or three, or four flights; your help will come through the roof, down from that God who, the six thousand years of the world's history, never betrayed a young man who tried to be good and a Christian. Let me say in regard to your adverse worldly circumstances, that you are on a level now with those who are finally to succeed. Mark my words, and think of it thirty years from now. You will find that those who, thirty years from now, are the millionaires of the country, who are the poets of the country, who are strong merchants of the country, who are the great philanthropists of the country—mightiest in church and state—are now on a level with you, not an inch above, and with you in straightened circumstances now. Herschel earned his living by playing a violin at parties, and in the intervals of his playing would go out and look up at the midnight heavens, the field of his immortal conquests. George Stevenson rose from being the foreman of a colliery to be the most renowned of the world's engineers.

No outfit, no capital to start with! Young man, go down to the library and get some books and read of what wonderful mechanism God gave you in your hand, in your foot, in your eye, and in your ear; and never again commit the blasphemy of saying you have no capital to start with. Equipped! Why, the poorest young man is equipped as only the God of the whole universe could afford to equip him.—Talmage.

Opportunities for Country Boys.

The editor of the Judd Farmer recently treated his readers to the following tribute to our country-reared boys. We recommend that the mothers read this to their boys at their evening fireside gatherings:

"The boy raised on a farm has a better chance in life than the city-bred boy. This is our profound conviction after years of experience and observation in city and country with young men in a wide range of industries. The farm-bred boy almost invariably has the better constitution—those elements of good health and ability to stand hard work that mean so much in

this life. He is usually endowed with a stronger moral character. We are shocked if a country lad in our employ goes wrong; city youth is more likely to be suspected. Absolute integrity was never in greater demand in young men.

"The city boy often has a pertness or 'smart' air that country youth do not possess. But the latter more frequently develop the manly substantial carriage that denotes real character. His mind is better trained than the average town boy's. He may not be quite as glib in his book learning, but the farm-bred boy, taught in Nature's school to observe and understand, has a rare foundation upon which to build a knowledge of industry, art, science or any branch of farming.

"The boy on the farm doesn't appreciate all this, but he ought to be thankful for his country life. After he has had some years of experience in other vocations, he will realize how true these words are. The farm is the place to rear a family."

Strathclair wants a flour and oatmeal mill, and has held a meeting to discuss the matter, at which the feeling was unanimous to grant a bonus of \$5,000 to start one. The nearest flour mills now are at Hamiota and Rapid City, a distance of from 28 to 30 miles. This bonus, it is pretty safe to say, the local government will not allow to be carried through. Once upon a time there was a bonused flour mill only nine miles west, at Shoal Lake, and whenever the period of his contract had expired the proprietor pulled it down and shipped it out to Gladstone, getting another bonus there.

A writer in an exchange says:—"It is not accidental that oats—the grain which, next to the whole wheat, is best for furnishing growth to the muscles—should have always been the favorite food for horses. They are better than wheat for all animals except man, and as good also for man, if properly prepared. It is the large proportion of hull which makes oats superior for horse feed, as the hull distends the nutriment and prevents it from compacting and heating in the stomach. Oat grain not only contains a large amount of nitrogenous nutriment, but it has besides a certain stimulative substance, which is peculiar to the oat."

Cows that are newly calved need a good deal more of skilful management than at any other stage. Trifling exposure may bring on a chill, followed by shrinkage of the milk yield, sometimes by caking of part or whole of the udder. The heifer gives most trouble. Often her udder is very hard and inflamed. The best treatment is to let the calf suck it until a more healthy and supple state is brought about. Failing the assistance of the calf, the milkman ought to draw away after the first day all possible milk three times a day until unnatural heat and inflammation from the part disappear. And very gently and patiently should he proceed, as the heifer is often very excited and little equal to bear the irritation and pain caused by milking out the inflamed bag. She will, however, submit readily enough to her calf taking such liberties as she would but impatiently submit to from the herdsman, let him proceed kindly as he may. With older cows there is comparatively little trouble unless they be very full of flesh, over free milkers, or the system be heated from taking too much cake, meal, or other strong diet. And for the first day or two after calving the animal should be fed on light diet, such as scalded bran, a few roots, unchopped hay ad lib., and such like. In summer the sweet herbage of the pasture surpasses all other diet. Light feeding a few days before the cow calves is always advised.



Manitoba Poultry Exhibition.

The annual exhibition of the Manitoba Poultry Association was held this year in Fonseca Hall, Winnipeg, Feb. 14 to 16, and was in many respects quite a success. The weather manager seems to have it in store to remind our inhabitants of bygone days always in the week of the poultry show. Last year during the time of the exhibition it was very stormy, and this year it was as stormy and cold a week as we have had in the shape of weather all winter, which affected the gate receipts very materially. The entry list was large and the stock A 1. We invite a careful perusal of the prize list as given below, and while the scores do not run as high as what appeared in the list for last year, we certainly believe the



H. A. Chadwick, St. James, Man.,
President of the Manitoba Poultry Association.

stock was better. This may seem strange, as at both shows Sharp Butterfield performed the judging. Nevertheless, our representatives heard a large number of the breeders remark that Mr. B. certainly cut closer this year than last. Why this was done we cannot say, but one thing is certain, and that is Mr. Butterfield can judge poultry, and had, no doubt, the best reasons for marking all birds as he did. There were a number of genuine surprises for some of the exhibitors. One or two instances will suffice. A prominent breeder sent east for an A 1 cockerel, securing a so-called "prize-winner," scoring 94 points, the card being sent with the bird, scored by Judge Hewes. This bird did not score enough points to secure a first prize ticket by Mr. Butterfield at this show, only making 89½ points. Another ardent admirer of poultry sent all the way over the big pond for some "sure" winners. When the tickets were put up, why it seems they were simply "not in it." In both these cases Manitoba bred birds won the prize ahead of them. "You cannot check Manitoba." She is bound to produce the best, whether it be wheat, stock or poultry. No doubt the thousands of Farmer readers

will realize by these cases cited that it is not necessary to send to some great distance for good birds; they can be had right here from breeders in the west. The exhibits from outside points were not as large as The Farmer would liked to have seen. However, considering the heavy express charges exhibitors are forced to pay, the entries were very good, the heavy

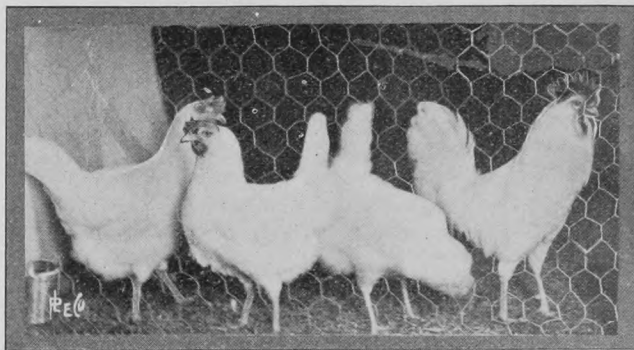
charges hinder a large number from showing their birds. This matter of express charges might be taken up by the association, and if at all possible secure a much lower rate for exhibitors. The Messrs. Kitson were missed from this show, also the breeders from Brandon. The exhibits of Messrs. Higginbotham, of Virden; Matheson, of Portage la Prairie; Lawrence, of Gretna, were very commendable, that of Messrs. Matheson & Co., being especially so, viz., 71 birds and 16 pigeons. His Honor Lieutenant-Governor Patterson spent one afternoon at the exhibition. He takes a deep interest in poultry, and was very much pleased with the exhibits made this year, remarking to our representative that the government and city should combine and erect a suitable building in which to hold the show. The exhibition is growing each year, and he considered it would be money well spent to have a real good poultry hall. Below will be found a complete list of the prize-winners with the various scores made. On other pages we show cuts of a few of the prize-winners. They are not as good as we would like to present, for the reason that they do not do the birds justice. It is very difficult to

photograph the birds properly when so many take a hand in the business. Just when our artist would be prepared to snap the button a jealous-minded bird in some other pen would peel forth and thereby attract the attention of those being photographed. Following is a correct list of prize-winners:—

PRIZE LIST.

Light Brahmas—Cock, 1 Geo. Hanby, Winnipeg, 91½ points; 2 Hugh Zavitz, Carberry, 89½; 3 J. W. Higginbotham, Virden, 88. Hen, 1 H. A. Chadwick, St. James, 93½; 2 Chadwick, 91½; 3 Chadwick, 91½. Cockerel, 1 W. F. Searth, Virden, 92½; 2 Chadwick, 90½; 3 J. W. Higginbotham, 88½. Pullet, 1 Chadwick, 93½; 2 Higginbotham, 91; 3 H. C. Searth, 90.

Black Langshans—Cock, 1 H. A. Chadwick, 94½; 2 S. Ling & Co., Winnipeg, 88½; 3 Jacob



Pen of Single Comb White Leghorns.

Shown by Geo. Wood, Louise Bridge P.O., Winnipeg.

Hillis, Winnipeg, 87½. Hen, 1 Chadwick, 93½; 2 Hillis, 92½; 3 Mrs. J. H. Oldfield, Fort Rouge, 91½. Cockerels, 1 and 2 Chadwick, 95½ and 90½; 3 Hillis, 89½. Pullet, 1 and 2, Chadwick, 95½ and 95; 3 Hillis, 90½.

Black Javas—Cockerel, 1 C. Midwinter, Winnipeg, 91½. Pullet, 2 C. Midwinter, 89½.

Mottled Javas—Pullet, 2 Ling & Co., 88.

Buff Cochins—Pullet, 2 W. H. Thomas, Winnipeg, 87½.

Partridge Cochins—Hen, 1 and 2, Chadwick, 93½ and 93. Cockerel, 1 Chadwick, 94½; 2 Emery & Bonnick, Winnipeg, 88½; 3 Chadwick, 87½. Pullet, 1 Chadwick, 94½; 2 Emery & Bonnick, 89½.

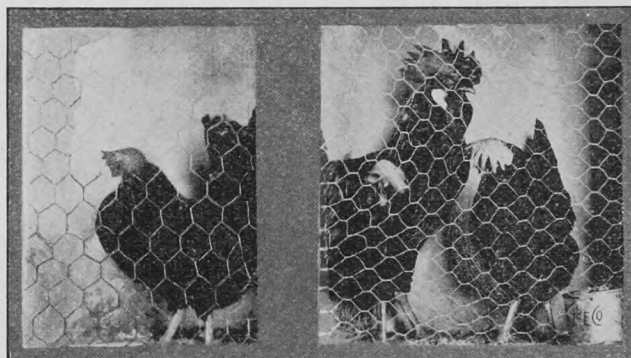
Barred Plymouth Rocks—Cock, 1 W. Rutherford, Winnipeg, 90½; 2 Chadwick, 90; 3 Zavitz, 89½. Hen, 1 J. T. Lawe, Winnipeg, 90½; 2 J. Todd & Co., 90½ (slight defect in eye); 3 Zavitz, 90½. Cockerel, 1 Chadwick, 91½; 2 G. H. Grundy, Virden, 90½; 3 Jas. Rothnie, Virden, 89½. Pullet —1 and 2, Wm. Rutherford, 91 each; 3 Todd & Co., 90½.

White Plymouth Rocks—Cock, 1 S. B. Blackhall, Winnipeg, 90½. Hen, 1 and 2, Blackhall, 90½ and 88½. Cockerel, 1 Blackhall, 91½; 2 Matheson & Co., Portage la Prairie, 89½; 3 T. C. Lusted, Stonewall, 88. Pullet, 1 Blackhall, 92; 2 Blackhall, 90; 3 Matheson & Co., 89½.

Buff Plymouth Rocks—Cock, 2 Todd & Co., 85½. Hen, 1 Matheson & Co., 90½; 2 Todd & Co., 90; 3 Matheson & Co., 89½. Cockerel, 1 Matheson & Co., 90½; 2 Todd & Co., 88½. Pullet, 1 and 2 Matheson & Co., 90½ and 90½; 3 Todd & Co., 88½.

Pea Comb Barred Plymouth Rocks—Cockerel, 2 Ling & Co., 88.

White Wyandottes—Cock, 1 W. E. Little, Fort Rouge, 92. Hen, 1 Geo. Wood, Louise Bridge, 91½; 2 Little, 91½; 3 Wood, 91. Cockerel, 1



Pen of Black Minorcas.

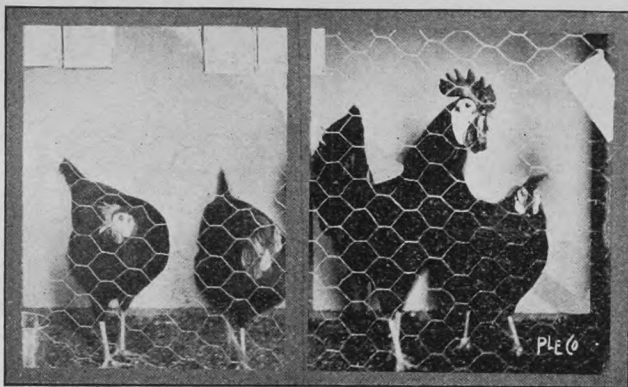
Shown by Chas. Midwinter, Louise Bridge P.O., Winnipeg.

Lane, 91; 2 Matheson & Co., 90½; 3 R. Byrnes, Virden, 89½. Pullet, 1 Wood, 93½; 2 Maw, 93½; 3 Law, 91½.

Buff Wyandottes—Cock, 1 F. J. G. McArthur, Winnipeg, 91½. Hen, 2 McArthur, 88½. Cockerel, 1 W. D. Lawrence, Gretna, 90½. Pullet, 1 Lawrence, 91½ (weight, 8 lbs.); 2 Lawrence, 91½ (weight, 6½ lbs.).

Black Wyandottes—Hen, 1 Matheson & Co., 90½. Cockerel, 1 Matheson & Co., 91½.

Black Red Games—Hen, 1 Matheson & Co.,



Pen of Black Spanish.

Shown by Geo. Wood, Louise Bridge P.O., Winnipeg.

92½; 2 Matheson & Co., 90½; 3 Reid, Portage la Prairie, 85½. Cockerel, 1 J. G. Rutherford, M.P., Portage la Prairie, 90½. Pullet, 1 and 2, Matheson & Co., 93½ and 87½.

Golden Duckwing Games—Cock, 1 Matheson & Co., 93½. Hen, 1 and 2 Matheson & Co., 91½ each. Pullet, 1 Matheson & Co., 90½.

Black Spanish—Cock, 1 Geo. Wood, 91½. Hen, 1 Chadwick, 94½; 2 and 3 Wood, 91½ and 90½. Cockerel, 1 and 2 Wood, 91½ and 89½. Pullet, 1 and 2 Wood, 90½ and 89½.

Black Minorcas—Cock, 1 Reid, 91½. Hen, 1 A. M. Robertson, Keewatin, 93½; 2 and 3, Reid, 93 and 92½. Cockerel, 1 Robertson, 91½; 2 Jos. Denner, Winnipeg, 89½; 3 Reid, 87½. Pullet, 1 Denner, 92½; 2 Reid, 92½; 3 Denner, 92½.

White Minorcas—Hen, 1 Reid, 91½.

Rose Comb Black Minorcas—(These do not appear in the catalogue, but are in the standard)—Hen, 2 and 3, Matheson & Co., 89½ and 89. Pullet, 1 and 2, Matheson & Co., 90½ and 90.

Silver Laced Wyandottes—Cock, 1 S. J. Thompson, V. S., Carberry, 92½; 2 McArthur, Winnipeg, 89½. Hen, 1 Lawrence, 91½; 2 Lawrence, 91½; 3 McArthur, 90. Cockerel, (14 entries), 1 Lawrence, 92½; 2 Lawrence, 90½; 3 Grundy, 90. Pullet, 1 Grundy, 91½; 2 and 3, Lawrence, 91 and 90½.

Golden Laced Wyandottes—Cock, 1 Ling & Co., 93; 2 Reid, 86½. Hen, 1 and 2, Ling & Co., 91½ and 87½. Cockerel, 1 Ling & Co., 90½. Pullet, 1 and 2 Ling & Co., 93 and 90.

Indian Games—Cock, 1 Matheson & Co., 92; 2 B. F. Hartley, Neepawa, 91½. Hen, 1, 2 and 3 Matheson & Co., 92½, 90½ and 90½. Cockerel, Matheson & Co., 1 and 2, 92½ and 92½; 3 Hartley, 89½. Pullet, 1, 2 and 3, Matheson & Co., 92, 90½ and 89½.

S. C. Buff Leghorns—Hen, Matheson & Co., 90½. Red Caps, hen, 1 Zavitz, 92½. Cockerel, 1 Zavitz, 93½.

Single Comb White Leghorns—Cock, 1 and 2, Wood, 92½ and 91½. Cockerel, 1 and 2, Wood, 92½ and 92. Hen, 1 and 2 Wood, 93 each. Pullet, 1 and 2 Wood, 93½ and 92½.

Rose Comb White Leghorn—Cock, 2 Wood, 88½. Cockerel, Wood, 90½. Hen, 1 and 2 Wood, 92 and 91½; 3 Ling & Co., 84½. Pullet, 1 and 2 Wood, 93½ and 91.

Single Comb Black Leghorns—Hen, 1 C. R. Howard, Winnipeg, 93½.

S. C. Buff Leghorns—Hen, 1 Matheson & Co., 90½.

R. C. Brown Leghorns—Hen, 2 Ling & Co., 84½.

Pyle Leghorns—Cock, 2 Jno. Kennedy, Winnipeg, 85. Cockerel, 3 Ling & Co., 82½. Pullet, 1 Ling & Co., 94½.

Silver Pencilled Hamburgs—Hen, 1 W.C. Hicks, Treberne, 93.

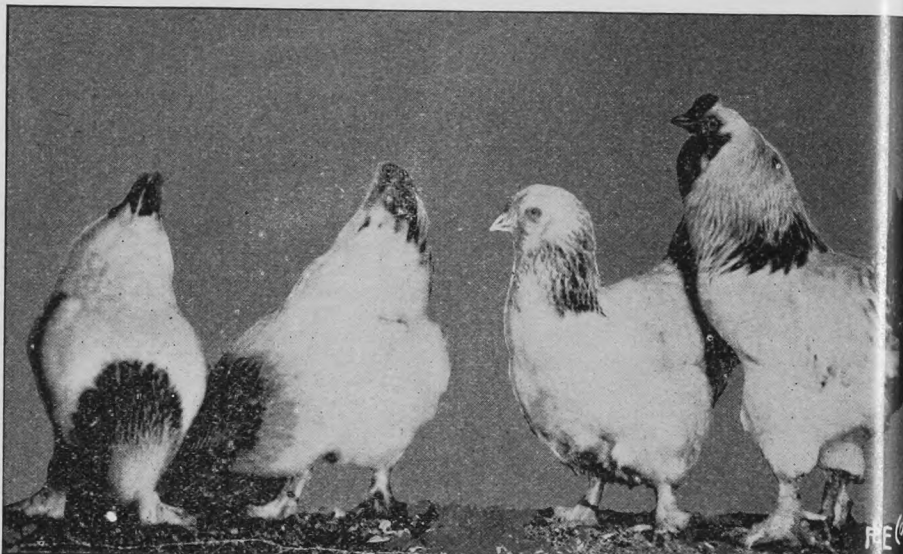
Golden Spangled Hamburgs—Pullet, 1 Todd & Co., 94½.

Silver Spangled Hamburg—Cock, Todd & Co., 92½. Hen, 1 Rutherford, 92; 2 Todd & Co., 92. Pullet, 1 Todd & Co., 94; 2 Hicks, 91½.

Polish, W. C., Black—Hen, 1 and 2, Matheson & Co., 93½ and 92½. Cockerel, Matheson & Co., 90½. Pullet, 1 and 2 Matheson & Co., 92½ and 91½.

Houdans—Cock, 1 Midwinter, 93½. Hen, 1 Midwinter, 93½. Cockerel, 1 N. Brown, Winnipeg, 90½; 3 Midwinter, 90. Pullet, 1 Midwinter, 96; 2 Brown, 91½.

B. R. Game Bantam—Cock, 1 Matheson & Co., 92½; 2 Hanby, 92½; 3 Higginbotham, 87½. Hen, 1 Hanby, 95½; 2 Matheson & Co., 91½; 3 Hanby, 91½. Cockerel, 1 Matheson & Co., 90½; 2 Thos.



Breeding Pen of Light Brahmas, owned by J. W. Higginbotham, Virden, Man.

Mooney, Winnipeg, 86. Pullet, 1 Grundy, 90½; 2 Matheson & Co., 89; 3 S. Metcalf, Fort Rouge, 88½.

Silver Dorkings—Cock, 1 Chadwick, 95. Hen, 1 Chadwick, 91½. Pullet, 1 Chadwick, 92½.

Single Comb Brown Leghorns—Cock, 1 Todd & Co., 92½; 2 Amos Williams, Winnipeg, 90½. Hen, Todd & Co., 95½; 2 Williams, 88½. Cockerel, 1 and 2 Williams, 93 and 92½; 3 Zavitz, 91½. Pullet, 1 Williams, 92½; 2 Zavitz, 91½; 3 Ling & Co., 91½ (2 and 3 tied according to judge's decision.)

Silver Sea-Bright Bantam—Hen, 1 Chadwick, 93½. Pullet, 1 Matheson & Co., 91½.

Golden Sea-Bright Bantam—Hen, 1 Higginbotham, 93. Cockerel, 1 Matheson & Co., 92½; 2 Higginbotham, 90½; 3 Matheson & Co., 89½.

Rose Comb B. Bantam—Cock, 1 Chadwick, 93½. Hen, 1 Chadwick, 95½. Cockerel, 1 and 2, Chadwick, 92 and 89. Pullet, 1 and 2, Chadwick, 91½ and 89½.

A. O. V. Bantam—Cockerel, 1 Grundy, 91½. Pullet, 1 Higginbotham, 90½.

Red Cap (Derbyshire)—Hen, 1 H. Zavitz, 92½. Cockerel, 1 Zavitz, 93½.

BREEDING PENS.

Light Brahmas—1 J. W. Higginbotham, Virden, score, 181½ points; 2 Amos Williams, Winnipeg, 176 11-12; 3 Williams, 174 1-3.

Black Langshans—1 S. Ling & Co., 180½; 2 John Todd & Co., Winnipeg, 177.

Black Javas—1 C. Midwinter, 183 9-10.

Partridge Cochins—1 Dr. Black, Manitowish, 176 7-12.

Barred Plymouth Rocks—1 Wm. Rutherford, 181 5-6; 2 Todd & Co., 179 11-12; 3 W. H. Thomas, Winnipeg, 176 1-6.

Buff Plymouth Rocks—1 and 2, Matheson & Co., 181½ and 180 11-12; 3 J. Todd & Co., 176 2-3.

White Wyandottes—1 G. Wood, Louise Bridge, 188 1-12; 2 Little, 175 1-6.

Black Wyandottes—Matheson & Co. (disqualified for one of the hens having white on tail; this pen would have scored high.)

Black Red Games—1 J. G. Rutherford, M. P., Portage la Prairie, 184½.

Golden Duckwing Games—1 T. M. Aldrich, Winnipeg, 186 1-6.

Black Spanish—1 Geo. Wood, 179½.

Black Minorcas—1 C. Midwinter, 183 1-6; 2 Reid, 181½.

Silver Laced Wyandottes—1 Grundy, 180½; 2 Thompson, 180 1-12; 3 Lawrence, 179 1-3.

Silver Laced Wyandottes—1 Reid, 180 2-3; 2 Ling & Co., 179 2-3.

Indian Games—1 B. F. Hartley, Neepawa, 181 11-12.

Single Comb White Leghorns—1 and 2, Geo. Wood, 187½ and 185½; 3 W. A. Pettit, Winnipeg, 180 1-6.

Rose Comb White Leghorns—1 George Wood, 179 2-3.

Single Comb Brown Leghorns—1 and 2, Amos Williams, 185 1-6 and 183 5-6.

185 1-12; 2 W. Rutherford, 184 1-12.

Silver Spangled Hamburgs—1 J. Todd & Co., Silver Pencilled Hamburgs—1 M. & W. Cordingley, 185½.

Houdans—1 C. Midwinter, 185 5-6.

Red Caps (Derbyshire)—1 Joseph Dixon, Winnipeg, 181 2-3.

TURKEYS.

Bronze—Yearling cock, 1 Maw, 97½; 2 Midwinter. Adult cock, 1 Midwinter. Cockerel, 1 Midwinter; 2 Masters, Winnipeg. Hen, 1 Maw, 98; 2 Midwinter. Pullet, 1 Maw; 2 Midwinter; 3 Masters.

GEESE.

Embsen, old—1 Midwinter. Toulouse, old—1 Midwinter (weight, 52 lbs.); 2 and 3 Maw. Young, 1 Midwinter (weight, 41 lbs.); 2 Maw; 3 Midwinter.

DUCKS.

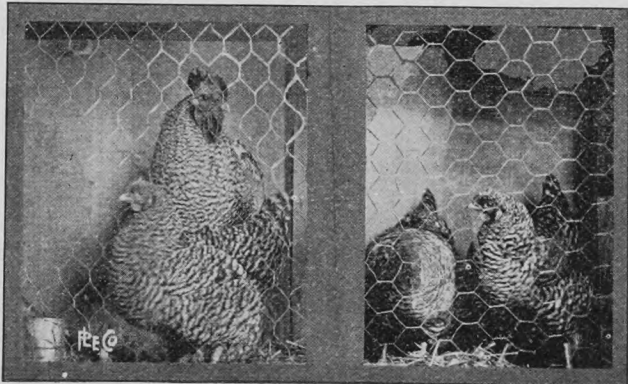
Pekin, pair old—1 Maw. Young, 1 Ling & Co.; 2 Midwinter. Rouen, old—1 Maw. Young, 1 Maw.

PIGEONS (PAIR.)

Black Carrier—1 J. H. Stewart, Regina; 2 Matheson & Co.

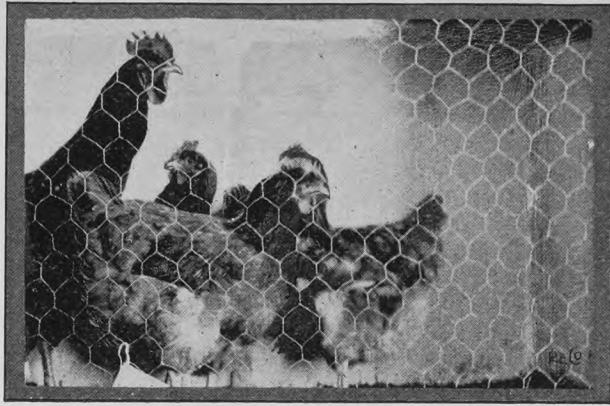
Dun Carrier—1 Stewart.

A. O. C. Carrier—1 Ling & Co.



Pen of Barred Plymouth Rocks.

Shown by Wm. Rutherford, Winnipeg.



Pen of Buff Plymouth Rocks.

Shown by Matheson & Co., Portage la Prairie.

Blue or Black Pied Pouters—1 M. Eddy, Winnipeg; 2 Kennedy.
 Red, White or Yellow Pouters—1 Ling & Co., 2 Kennedy.
 Black or Dun Barbs—1 Ling & Co.
 Almond Tumblers (short-faced)—1 J. Hawkins, Winnipeg.
 Mottled Tumblers (short-faced)—1 W. J. Hilton, Winnipeg; 2 Jos. Anderson.
 Snuff-Colored Tumblers (short-faced)—Matheson & Co.
 A. O. C. Tumblers (short-faced)—1 Metcalf; 2 G. W. Pingle, Winnipeg.
 Mottled Tumblers L. F. (clear legged)—1 Ling & Co.; 2 Hilton.
 Red Mottled or Rose Wing L. F. Tumblers—1 Stewart.
 Yellow L. F. Tumblers—1 Metcalf; 2 Hilton.
 A. O. C. L. F. Tumblers—1 Hilton; 2 Pingle.
 Black Jacobins—1 Matheson & Co.
 Red Jacobins—1 Matheson & Co.
 Blue English Owls—1 W. Kennedy.
 Silver English Owls—1 W. Anderson, Winnipeg.
 Mottled Trumpeters—1 Stewart.
 A. O. C. Trumpeters—1 Ling & Co.
 A. O. C. Turbits—1 Ling & Co.
 Black Fantails—1 Anderson.
 White Fantails—1 and 2 Stewart.
 Yellow Fantails—1 Kennedy.
 A. O. C. Fantails—1 P. Kennedy; 2 Victor Hastings, Winnipeg.
 Blue Homers—1 Hawkins; 2 Ling & Co.
 Black Homers—1 Hawkins; 2 Hall.
 Black Checker Homers—1 McArthur; 2 Metcalf.
 A. O. C. Homers—1 McArthur; 2 Matheson & Co.

PET STOCK.

Guinea Fowls, Pearl—1 Midwinter; 2 Ling & Co.
 White Guinea Fowls—1 Midwinter.
 Himalayan Rabbits—1 T. C. Keyes, Winnipeg.
 A. O. V. Rabbits—1 Keyes; 2 Owen Simmonds, Winnipeg.
 Guinea Pigs—1 Matheson & Co.

CANARIES, ETC.

R. Alston, Winnipeg, took all prizes in this class.

DRESSED POULTRY.

Display of Dressed Poultry—1 R. Edmunds, Oak Bank; 2 O. Simmonds.
 Eggs, 1 doz. Best White—1 Mrs. Brady, Winnipeg.
 Eggs, 1 dozen Best Brown—1 Mrs. J. H. Oldfield, Fort Rouge; 2 Mrs. Brady, Winnipeg.

For winners of Cups, Medals and Special Prizes, see our next issue.

Poultry House Plan.

T. R. Michie, Arizona, writes.—“Being greatly pleased with the barn plans in the February issue of The Nor'-West Farmer, I should be glad if some of your subscribers would send in plans for poultry house, with internal fittings.”

Answer.—The plan and description here given may be very useful to all in search of good pointers along the line of poultry building and breeding.

The house here described faces the south. It is 16x48 feet. It is made of the best grade of lumber throughout. The sides and ends are of drop siding. It is ceiled inside, sides, ends and overhead with ship-lap. On the inside, between the drop-siding and ship-lap, the best quality of building paper was used. This prevents the cold air entering the dead air space, and what little does get in cannot find its way into the house proper. The house is well floored. On the roof the best grade of red cedar shingles were used. I have learned that it is not well to build a poultry house with a shed roof, because the front or high side will be to the south, and the sun in winter being so far south that its rays strike the shed roof so slanting they do not assist in warming and drying out the house. With a cone roof the conditions are reversed. The windows are of double sash, making the total window space 2½x5 feet. Each sash is so set as to be raised or lowered as desired. Storm windows are added in winter.

Each of the four pens has an outside run, 116 feet long and 12 feet wide, with the exception of the east one. This has a run of 116x16 feet. These runs are planted to trees—cherry and plum.

The runs are seeded to red clover and blue grass. In the construction of pen partitions 5-foot wire netting is used, with a board on the bottom.

H. A. CHADWICK,

ST. JAMES, MANITOBA.



Light Brahmas, Barred Plymouth Rocks, Black Langshans, Guinea Fowls, and Black African Bantams, Fowls for sale of each variety. My birds are too well-known as prize-winners to call for further comment. Write for what you want. Telephone connection with Winnipeg. German Canaries for sale, good singers.

2170

OAK GROVE POULTRY YARDS,

ST. JOHN'S, WINNIPEG, MAN.



B. P. Rocks,
 B. Minorcas,
 Houdans,
 Light Brahmas,
 Red Caps,
 S. L. Wyandottes,
 M. B. Turkeys,
 Toulouse Geese,
 Embden Geese,
 Pekin Ducks,
 Rouen Ducks,
 Pearl and White
 Guineas.

Write for price list and please enclose stamp for reply.

Address—CHAS. MIDWINTER,
 900 Buchanan St., Winnipeg.

PLYMOUTH ROCKS.



The Plymouth Rock, the farmer's fowl, is our specialty, none but one breed kept. Freedom of farm should ensure a good hatch. We recently brought from Ontario a beautiful pair of cockerels, large well marked fellows. These, mated to our choicely bred young hens and pullets, should give fine results. Eggs carefully packed and delivered at Carman, C. P. R., or Roland, N. P. R., for \$1.50 per setting of 14, two settings, \$2.50. We have a few Yorkshire Pigs, fall litters, both sexes, for sale. Orders are coming in for spring pigs of both Yorkshires and Berkshires.

A. GRAHAM,
 FOREST HOME FARM,
 POMEROY, MAN.

Lakeview Herds and Flocks.



My breeding yards of Barred P. Rocks, Light Brahmas, Rose C. Brown Leghorns, Black and Silver L. Wyandottes, Mammoth Bronze Turkeys and Pekin Ducks, are all imported and winners of 35 1st and 52nd prizes from 41 entries in 1897. A few choice B.P. Rock Cockerels and young Turkeys for sale. Orders booked for eggs. Poland China Swine, from imported parents, with pedigrees, at reasonable prices. Correspondence solicited.

J. J. MOIR, PROPRIETOR,
 GLENDINNING, MAN.

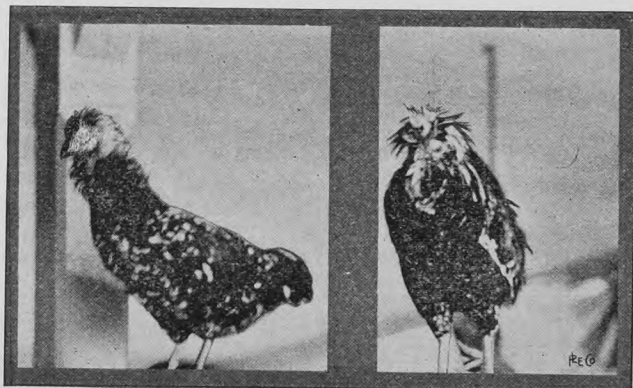


INCUBATING THERMOMETERS.

We handle the most improved and accurate ones in the market. Write for prices.

W. R. INMAN & CO.,
 WINNIPEG.

2226



Houdan Cock and Hen.

Shown by Chas. Midwinter, Louise Bridge P. O., Winnipeg.

THE INTERIOR.

A sketch of the pens is herewith shown. In the construction of this house the aim was to combine as many good things as possible. By so doing the welfare of the fowls is taken care of fully and the work of attending them reduced to the minimum. D is the door by which the building is entered from the east. The hall-way extends the entire length of the building, on the north side, and is 4 feet wide. Each pen is 12x12 feet. It will be seen that in the furnishing of these pens the only floor space given up to any fixture is that occupied by the dust bath, D B. This is important, for during the long months when the fowls must of necessity be confined, they need all the floor space possible. Each pen is entered by a door, D. The roosts are designated by R. The roosts are 10 feet long, there being two in each pen. They are made of 2x4 timbers and are placed with broad side for fowls to roost upon. They are placed upon dropping boards in the form of a platform 10 feet long by 4 feet wide. The roosts are 9 inches above the dropping boards, the dropping boards being 2 feet, 6 inches from the floor. The platform constituting the dropping boards is held in place by hinges connecting with the pen division boards and by two legs in front. This allows us to keep the whole free from vermin. Every two weeks the platform is raised by means of a pulley and thoroughly painted on the

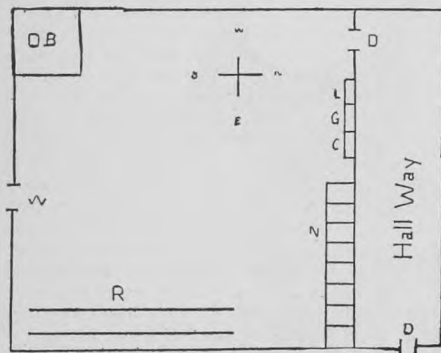


Diagram of Poultry House.

D—Door. W—Window. D B—Dust Bath.
N—Nests. R—Roosts. C, L, G—Charcoal, Lime, Grit.

bottom side with liquid lice killer. The droppings are removed three times a week. Every two weeks the roosts and upper side (as well as lower side) of the platform is gone over thoroughly with the lice killer, as are the nests. The nests are placed two feet from the ground. They are made roomy, and are entered from the end, there being a passage way in front of the nests. The side facing the pens is tight, as is the slanting top. This makes the nests quite dark, and the top not being level the birds cannot roost thereon. The hall-way fence is made of small square pickets, 3 feet high, with wire netting extending above to the ceiling. The eggs are gathered from the hall-way by reaching into the nests between the pickets. L G C represents small boxes containing lime, grit and charcoal. These boxes are small (cigar boxes will answer nicely) and set upon the floor in the hall-way. The fowls can secure the contents by reaching through between the pickets. By having the boxes in the hall-way the materials are not scratched out of the boxes and wasted. The dust boxes are each 3x3 feet, 6 inches high. The pen divisions are made of wire netting with boards on the bottom 2 feet high.

The morning feed is given in shallow troughs. As soon as the meal is over the troughs are removed from the pens and hung up in the hall.

One of the very best egg-producing ma-

terials is warm water. In the average poultry house about the most neglected duty is watering the stock.

Up-stairs in the attic are four feed bins. These are of necessity small, but will hold a winter's supply of oats, wheat, barley and shelled corn. A tube runs from each bin down into the hall-way, each bringing feed into a box resting on a shelf. From these boxes the feed is taken at feeding time. There is no running for feed or carrying of same. It is right there at hand, and the grain can be fed as desired. If kept separate this way it can be mixed at feeding time as desired to meet the conditions. In the west end of the hall-way is located the soft feed bins. Here, too, are a pair of scales used in weighing birds. The liquid lice killer and other necessary things are kept in a cupboard on the west side of the hall-way. The droppings are used about the fruit trees and upon the grass range.

The floor is covered with straw and they must scratch for every particle of grain they eat.—American Poultry Journal.

The Minorca.

Written for The Nor'-West Farmer.

"The Minorca is the bird." I heard this remark made, and it is worth endorsing. Who, with an eye to see, could fail to admire his fine appearance? The proudly erect comb, the beautiful eyes, and pure white ear lobes showing up with such clearness on the red face, intensified by the long red wattles. All this with the fine glossy black plumage, with its suggestions of the loveliest greens, as the light catches him in different directions, and his graceful, but proud, very proud, carriage, would certainly lead one to suppose that he knows, as well as we, that his clean black legs and feet uphold a bird hard to beat in appearance. But though we admire his appearance strutting around in all his glory, those of us who are not vegetarians can bear testimony to his good qualities as a table bird. Rich, juicy meat, of good color, always white and pinky, never any yellow tinge, and such a rapid grower the first few weeks of his existence that it is an excellent breed for broilers. But of all the good qualities possessed by the Minorca, we have yet the highest and best—the wonderful, truly wonderful egg-laying qualities of the hen. Here the rapid growth and quick maturing of the birds come in to good advantage, for at four months old the pullets begin to lay their fine white eggs, and the way they keep it up the year round, both in size and number, is simply astonishing. They waste very little time moulting, and are most consistent non-setters; in fact, taken all round, are the up-to-date business birds. And those who are keeping this breed are the agitators for selling eggs by the pound rather than by the dozen—for obvious reasons. The ideal bird has been described as large, vigorous, active, and graceful. The Minorca can "fill the bill" every time, and, what is important in this cold country, is hardy.

We have received an enquiry from a subscriber at South Edmonton as to whether it is advisable to use brooders or not. It all depends. If you are making the rearing of poultry a business and intend to go into it largely, incubators and brooders are a necessity, and will work as successfully in this as in any other country, but if, as we judge by the enquiry, the intention is only to raise a limited quantity, our advice is to stay with the old-fashioned brooder and incubator "Biddy" herself. We know of no

one in Winnipeg who is handling brooders, and the letter was received just as we were going to press, otherwise we would present in this issue a plan for a home-made brooder that could be made at a very small cost and would work successfully.

Louise Bridge Poultry Yards



Secure
Another
Sweeping
Victory

On S. and R. White Leghorns, White Wyandottes and Black Spanish; winning at Manitoba Poultry Show,

February, 1898, 16 First Prizes, 11 Seconds, 2 Thirds, 4 Silver Cups and Gold Medal, including Lieutenant-Governor's Challenge Cup and Gold Medal, won by my pen of White Wyandottes, score 188 1-12, the highest scoring pen on exhibition, followed up closely with my pen of White Leghorns, score 187 1/2. My breeding pens this season are as fine as can be found in America, containing all my prize winning stock. Egg orders booked now from these grand pens at \$2.00 per 13. A few choice birds for sale.

ADDRESS—

GEORGE WOOD,

Louise Bridge P.O.,
WINNIPEG, MAN.

EGGS FOR HATCHING.

Barred Plymouth Rocks,
Buff Plymouth Rocks,
S. C. Brown Leghorns,
Black Langshans,
Silver Spangled Hamburgs.

ALL
PRIZE
WINNERS.

\$2.00 for 13, \$3.50 for 26. Stock for sale.

JOHN TODD & CO.,

2255

457 Henry Ave., WINNIPEG.

BLACK MINORCAS

J. DENNER & SON, 295 Fountain St., Winnipeg, Breeders of high-class Minorcas, will this season breed from two pens.

No. 1 Pen—headed by brother to the winner of New York Show, 1897, mated to pullets imported direct from Pitts, of England, winner at the Crystal Palace.

No. 2 Pen—Pitts' cockerel and Duff's and Roberts' hens. A limited number of Eggs for setting will be sold from these two pens. 2246

MAW'S POULTRY FARM

WINNIPEG,

Bronze Turkeys, Toulouse Geese, Pekin and Rouen Ducks, Plymouth Rocks, White and Silver Laced Wyandottes, Light Brahmas, White Leghorns, Pearl Guineas, Homing Pigeons.

Large new descriptive circular mailed free on application. Eggs and stock at reasonable prices.

KEEWATIN POULTRY YARDS.

A. M. ROBERTSON, Prop.

Highest scoring birds at Winnipeg Poultry Show, 1898. Makes a specialty of BLACK MINORCAS. Correspondence solicited.

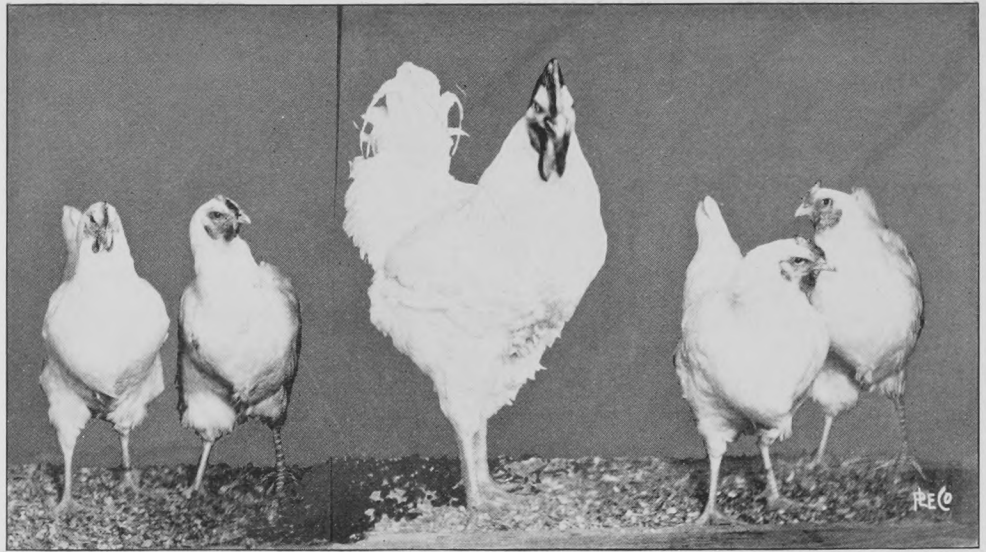
2247

A. M. ROBERTSON, KEEWATIN, ONT.

SHOEMAKER'S STOCK WINS!

In the hands of his customers it wins and keeps winning every prize in sight. Never Beaten! Always Victorious. We lead in quality and low prices. Largest and best stock. OUR POULTRY ANNUAL & ALMANAC FOR 1898 is a corker. 100 pages best paper. It tells all about everything in the poultry line. Is fully illustrated with finest engravings. It should be in every library. Price only 15c. Money refunded if not satisfactory. Address, C. C. SHOEMAKER, FREEPORT, ILL., U. S. A.

We present herewith a cut of White Plymouth Rocks, owned by S. B. Blackhall, of Winnipeg. He has been breeding fowl for some years, but has only done so for his own recreation and pastime. His success as a breeder is shown when we state that he had the misfortune to lose nearly 30 of his best birds in one night by dogs, and still was able with only six birds entered to take four first and two second prizes. He has also in his yards the pullet which took first prize in the Ontario Show, London.



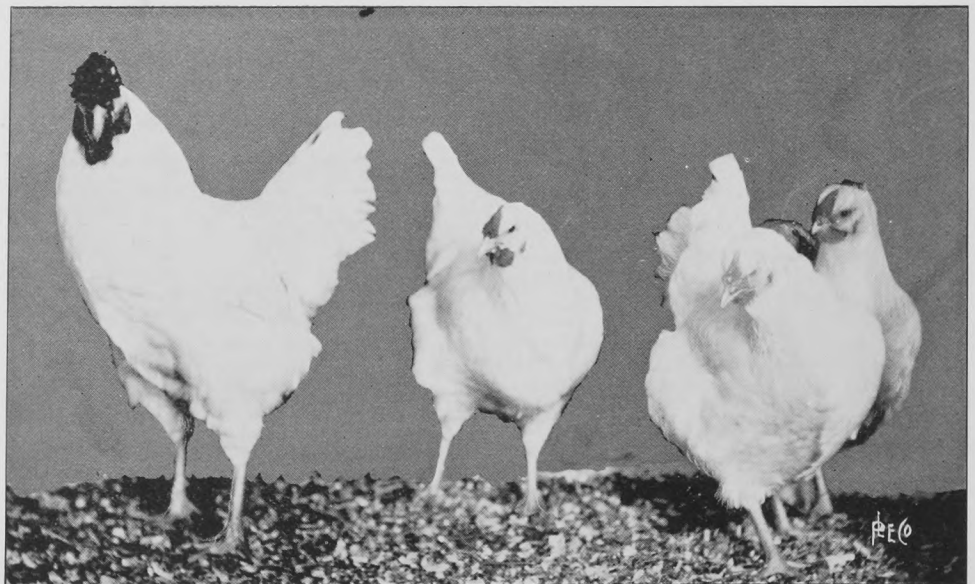
White Plymouth Rocks, exhibited and owned by S. B. Blackhall, Winnipeg, Man.



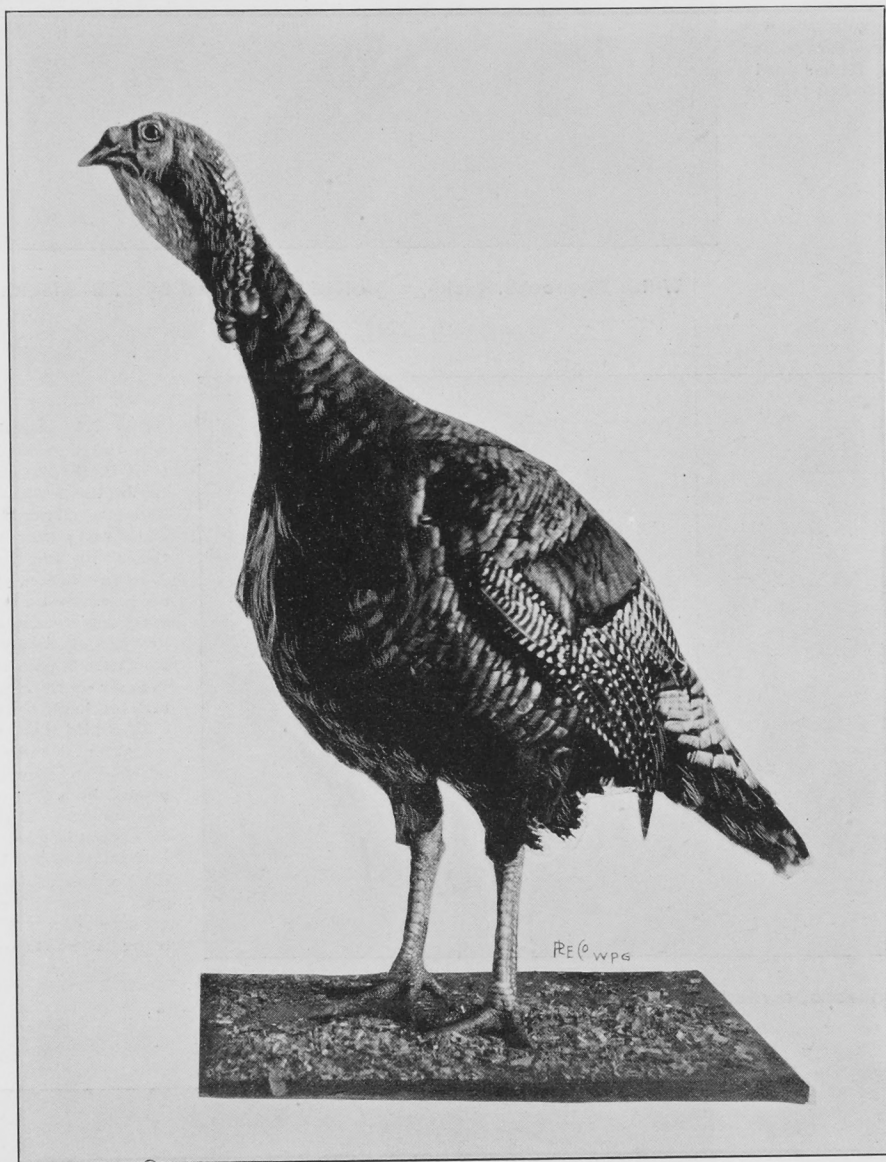
Black Minorcas, owned by J. Denner & Son, Winnipeg.

One of the special features of the Poultry Show was the fine display of Black Minorcas, with their black plumage and bright red faces and combs, the fowl that gives us such large eggs. This good all round bird is just now being appreciated and visitors were loud in their praises of the beauty and the numbers that were shown. J. Denner & Son, of 205 Fountain St., Winnipeg, are breeders and keep only this variety. Their entry was a show in themselves and at this and previous shows are winners not one but scored from 90 to 94 points and their breeding pens are very strong this season. No. 1 pen, headed by own brother to the winner of New York show of 1897, a bird that weighs over ten pounds, a model bird of this variety, mated to pullets imported direct from Pitts, of England. No. 2 pen, headed by a Pitts cockerel mated to Duff and Roberts hens. With such matings as these there cannot but be good results. We understand they will sell a few settings of eggs. Their advertisement appears in this issue and anyone wanting good birds would do well to write them, and we are sure they will be well treated, their motto being "The Golden Rule."

This is an illustration of the highest scoring pen on exhibition at the late Manitoba Poultry Show, winning the Lieut.-Governor Patterson Challenge Cup and Gold Medal. They are the property of Geo. Wood, Louise Bridge P.O., Winnipeg, and scored 188 1-12 points. This pen was closely followed by his pen of White Leghorns, which scored 187 1-4.



Pen of White Wyandottes, owned by Geo. Wood, Louise Bridge P.O., Winnipeg.



Mammoth Bronze Gobbler, owned by M. Maw, Winnipeg.

The above photograph, taken by a member of "The Nor'-West Farmer" staff at the Poultry Show, of the Mammoth Bronze Gobbler that won 1st in the yearling class, also winning the Hutchings' special for heaviest gobbler, any age or variety. He is justly called "Mammoth," and Sharp Butterfield scored him $97\frac{1}{2}$ points out of a possible 100. His present weight is $38\frac{1}{4}$ lbs., girth under wings, 36 inches, length 44 inches. His plumage is a magnificent bronze. He is owned by Maw's Poultry Farm, Winnipeg, and will head their flock this season, being mated with the 1st prize hen, 24 lbs., 1st prize pullet, 22 lbs., and other hens selected for size, strength of bone and true bronze plumage. Mr. Maw has made a specialty of Bronze Turkeys for a number of years and is one of our most successful breeders. His advertisement will be found on another page. The Stovel Co. are now printing his new descriptive circular, which will be mailed free on application.



Grasses and Clovers.

By S. A. Bedford, Brandon Exptl Farm.

During the past season over one hundred plots on the Experimental Farm were set apart for experiments in grasses and clovers. These plots varied in size from 20 to 6 acres. Some were cut for the first time this year; others were the second and third years' cutting. The season at Brandon was a very trying one for grasses, as we had but two inches of rain for the two months of June and July, and fields of all varieties of grasses were lighter than usual.

The several objects in view when undertaking this work were: 1st. To ascertain the hardiness and suitability for this country of several promising varieties of grasses and clovers. 2nd. To compare results from sowing grass seed with and without a crop of grain. 3rd. To ascertain the most suitable quantities of seed for some of our leading varieties of grasses. 4th. To see whether a crop of clover sufficiently heavy to benefit the soil as a green manure could be grown either in one or two years. 5th. To find by actual test the most suitable mixture of grasses for hay and permanent pasture.

HOW THEY WERE SOWN.

1st Plan. Barley stubble was plowed shallow late in May, harrowed once, the seed sown broadcast, and then well harrowed the second time. In a few days grass and weeds came up thickly; both were mown down three times during the season, and the cuttings left as a mulch on the ground. As the weeds were all annuals, no further trouble was experienced from them. The grass plants in all three plots sown by this plan made a rapid and vigorous growth, and by fall were from 3 to 18 inches high. The snow came early in the fall of 1896 and remained all winter, giving all the varieties ample winter protection.

The returns in round figures from this series of plots were as follows. Size of plots, 1-10 acre:—

	Tons.
Bald Rye Grass (<i>A. tenerum</i>)	3.3
Awnless Brome (<i>Bromus inermis</i>)	3.4
Bearded Rye Grass (<i>E. Americanus</i>)	2.4
Bald Wheat Grass (<i>E. Virginicus</i>)	2.2
Tall Meadow Oat Grass	1.4
Meadow Foxtail	1
Hard Fescue	1
Timothy	1
Orchard Grass	1
Red Top	1
A one-acre plot of Brome Grass	2

The second series of grass and clover plots were sown with a grain crop, the grain being first sown with a drill, and the grass and clover seed then scattered broadcast and lightly harrowed in. A thin catch was obtained, but the grain crop apparently robbed the grass and clover plants of a large proportion of the moisture. The yield of grass was greatly reduced and nearly all the plants in the clover plots were completely killed.

The Brome grass, sown with a grain crop, yielding only one ton, 800 pounds, while the plot sown without grain gave a return of nearly 3½ tons, or over double the quantity, and Bald Rye grass, 2 tons against 3½ tons per acre, without a grain crop. The clovers sown with a grain

crop suffered even more severely than the grasses, only a plant or so per rood escaping, while the following returns were obtained from the several varieties sown without a grain crop: Alfalfa, 2 tons; Mammoth Red, 1½ tons; Alsike, 1 ton, showing clearly the advantage of sowing both grasses and clover without a nurse crop.

THICK AND THIN SOWING.

Now, in regard to proper thickness to sow grass seeds. Twenty plots were set apart for this test. The amount of Timothy seed used varied from 5 to 20 lbs. per acre, but with all the other varieties from 10 to 20 lbs. were used. The returns were remarkably uniform, but for this the first year the heavier seedings averaged slightly the best returns. It is expected that in future the thick sown plots will be too much crowded for the best results, our experience going to show that all grasses have a tendency to become matted after the first year.

CLOVERS FOR GREEN MANURE.

The question of green manure for this province is an important one, for it is evident that sufficient animals to maintain the fertility of the land by means of stable manure will not be kept on the average farm, at least for a number of years, and in the meantime the soil is being rapidly run out. It is a well-known fact that plants of the pea family, such as vetches, peas, clovers, etc., are the most suitable for green manure, because they obtain a large proportion of their nitrogen from the atmosphere. For the purpose of throwing light on this subject, five varieties of clovers were sown broadcast on spring-plowed stubble and harrowed in. Bokhara, or Sweet Clover, gave 14 tons of hay per acre; Alfalfa, 2 tons; Mammoth Red, 1½ tons; Alsike, 1 ton; common red clover, 900 pounds, and all the varieties gave more or less aftermath. The fodder from sweet clover is not considered first-class for feeding purposes, but the plant has often been used in Great Britain for the purpose of green manure, and I have no doubt would prove useful for that purpose here.

PERMANENT GRASS MIXTURES.

Ten different mixtures for permanent pasture were tested last year. The largest crop of hay was obtained from a mixture consisting of ten pounds of Bald Rye grass and five pounds of Canadian Blue grass per acre. This gave over 2½ tons of hay per acre and a fair aftermath. Timothy and Canadian Blue grass gave only 1½ tons per acre. It is expected that in a few years both Rye grass and Timothy plants will disappear and the Blue grass take full possession.

SUMMARY.

1st. In a favorable season, i. e., when the snow comes early and remains all winter, many of the hardiest varieties of grasses and clovers will winter successfully in this climate.

2nd. Western Rye grass (a native of our prairies) again takes the lead for yield of hay. The quality is also excellent, but Awnless Brome grass gives nearly as much hay and better aftermath. The pasture in spring is also earlier.

3rd. The yield of hay for the first year is not materially influenced by the amount of seed used above a certain quantity, but thick seeding is expected to lessen the yield during the second and following years.

4th. Western Rye grass and Canadian Blue grass gave the largest yield of any mixture tested, but the aftermath is light for the first year. It may improve in a year or two when the Blue grass gets established.

5th. Clover sown without a nurse crop can be depended upon for a green manure in a favorable season, but it is doubtful if it will prove a success if sown with a grain crop.

DISCUSSION ON MR. BEDFORD'S PAPER.

In the after discussion that followed this paper, Mr. Bedford said: I succeeded in making clovers grow some years ago. It was an exceptionally good season, and I had a good return. There is one good thing about the experiments of this year, I think we will have some good results, even if not fully up to our expectations. In our small experiments we select plots that are uniform in character, without any hills or hollows—as nice, level land as we can get. We have to do this or the comparison will not be correct. Comparing results from sowing grass seed with or without grain. In nine cases out of ten in the east it is sown with other crops, and we wanted to know what is best here. Authorities have fixed tables which show that you must sow 20 lbs. of timothy to the acre; 25 to 30 lbs. of Brome grass to the acre in the east, and we know that is wrong in this country, and we want to know how much to sow here. I hold that it is almost impossible for the average farmer in Manitoba to keep enough stock on the farm to fertilize every part of that farm, and we all know that we rob the soil constantly, so that sooner or later there will be an end to the fertility of the soil, and that is one of the most serious problems we have to solve in Manitoba, and we wanted to know if we could get one of the pea family to plow under. To find out the most suitable mixture of grasses for hay and permanent grasses for Manitoba and the Northwest, the hardiness of the plant, how to sow the grass seed, how much of it, where we could get a green crop, and where we could get permanent pastures, and these 100 plots were sown to cover these different questions. We plowed prairie stubble in the end of May, harrowed it once, sowed the grass and clover broadcast and harrowed it in.

Q. Did you harrow it deep?

A. Not too fine, and drew the stubble right to the surface, where it does the most good. We sowed the grass seed directly after plowing the land. The grass seed and clover seed also made a splendid catch. We let the weeds grow until we were able to run the mower, and then cut both weeds and grass. We repeated that three times, and left the result in weeds and grass on the surface. We did not cut very low. We endeavored to catch all the weeds. Bear in mind the season was exceptionally favorable for our experiments. I suppose there is no question exercising the minds of the farmers to-day so much as this. We turn our cattle into the native pasture, and they do fairly well for a number of years, but by the cattle eating and tramping it down and the wind in the winter it gets bare. We mowed one acre of our pasture meadow and had a half-ton from it. We broke up an adjoining acre, took off two crops of grain and took 4½ tons to the acre. One was the native wild pasture, and the other was practically the same soil cultivated nine times as much. That gives you an idea of how pastures run out. The cultivated land stood the pasturing fully as well as the other. There are two or three reasons why our grasses run out. Close cropping, cattle eating the grass before it has time to seed, and a number of our grasses are not good perennials. Sowing grass seed on a pasture that has bare spots on it, without any cultivation, has always proved a failure. At one time I recommended the sowing of

grass seeds on summer fallowed land—that is, summer fallow the land until the month of August, and then sow grass seed. We sowed about twenty plots after this style, and only saved two or three of them last year. If the soil drifts at all it is bad. After this I would sow from the first to about the middle of June.

On behalf of the dairy section, the question was asked, "How does Brome compare with native grass for milk?"

A. I cannot give you the figures, but they are in our 1896 report, and will have them in our 1897 report. They were very satisfactory. If we wish to extend the milking period, it can be done by turning the cows into a large field of Brome grass. Of late years our meadows were dry the latter end of August, and the Brome grass was as green as ever, the aftermath 6 inches high, and the cows gained as soon as they were turned into it. We extended the experiment this year to corn. The season was exceedingly dry at Brandon, and we had to have something before the Brome grass was fit to turn on to. We started with our corn, and had the same experience there.

Q. As winter feed what time would you cut Brome grass?

A. Cut it early; just as soon as it is in head, although if you have threshed the seed out of it, you have good feed, even then. It is much better than timothy and the natives.

Q. Is it hard to save when cut young?

A. No.

Q. Have you any trouble threshing?

A. No; it is the cleaning that is the trouble. I think we got on to a wrinkle this year. We turn the fanning mill the wrong way.

Q. Did you ever try any of these grasses on stony, hilly land?

A. Yes; the best crop of Brome we ever had was on a bare knoll.

Q. Where farmers have cultivated wheat extensively and find weeds are getting the better of them, and wish to put some portion of their land under hay to keep down the weeds, what seed would you sow, with the system you have of cutting them, until they had time to cultivate it properly?

A. Brome grass.

Q. How do you thresh it?

A. We cut it with the binder, and stook it up, and handle it very carefully. In threshing it we hold the sheaf until it is threshed, and then draw it out again; otherwise there is so much straw goes in, it is difficult to get it out. The great problem is to get the straw out of the seed, because they look so much alike.

Do you consider Brome grass straw as valuable for milk production as timothy?

A. More so.

Q. Is there any trouble in getting good blue grass seed?

A. There is a little trouble getting it good, but you can get it good if you insist upon getting the best. In any case, the germination of blue grass is low.

Q. Did you ever plant corn in hills?

A. We have tried that, and also planting it thick. With the thick planting we got less water and not much substance. We tried it in hills, and the result, with one exception, has always been less than from drills. That exception was last summer, and it was at the bottom of a hill, where it was moist. If you can plant them exact, then, of course, the hills are best.

Q. Have you had good ensilage?

A. The result every year has been the same. We have had good ensilage if we wilted it before putting it into the silo.

Q. Have you had any trouble getting corn to mature?

A. I do not care if it only wilts. The

earlier varieties in every case give the smallest yield. The Cuban Giant will not even produce tassels. Our native Squaw corn always matures. Then you have all the variations between these two extremes.

Q. Was last year especially favorable for ripening corn?

A. No; there was a time when we had not sufficient moisture.

Q. Do you pickle oats with bluestone for smut?

A. Yes, but it is not a complete success. By using bluestone, and thoroughly cleaning the seed, you can keep smut under.

Q. Did you ever notice any difference in the ripening dates of oats that were pickled and those that were not?

A. No. I have noticed a difference of three weeks between plowed in and drilled in; the plowed in were the later.

Q. Have you had any experience with changing oats from light to heavy soil?

A. No, but we have had experience from stubble land to back-set, and if people would break up a portion of their land each year and keep it for seed, instead of going away from home for seed, it would be better.

Q. Do you prefer summer fallow to back-set for that purpose?

A. Back-set every time. It brings earlier grain.

Q. How would you advise a man who had a small piece of Brome grass to save the seed? Would it do to sow the seed the same year, with the hope of getting a crop?

A. I would not recommend that plan, as it is not likely to germinate in the fall. Cut it and put it in a stook or in the barn and thresh it.

Q. How are those grasses for shedding water in the stook?

A. They are good water-shedders.

Q. Do you think the continuous cultivation of corn for three or four years would rid the soil of French weed?

A. No. I think it is almost impossible to wipe out French weed once it is established. The only thing you can do is to isolate the patches.

Q. Is it necessary to manure for turnips, or does the crop impoverish the land much?

A. We find it necessary to manure the land for root crop. To save ourselves labor, we grow roots on the same land every year. We harrow and drag it up fine. We put on ten loads of thoroughly rotted manure in the fall. We harrow the land and roll it both ways in the fall, and then in the spring harrow it once or twice and sow root crops on the level. When we first commenced we had about 250 bushels of turnips to the acre, 400 bushels of mangolds, 100 bushels of carrots; two years ago, 1,200 bushels of mangolds, 500 bushels of carrots.

Q. Do you recommend sowing carrots on the level?

A. Yes.

Q. Are turnips or wheat crop the hardest on the land?

A. I suppose the turnip crop is in reality. There is another point you gain by putting the root crop on the same ground in succession. You avoid the cut worm.

Q. What time do you sow turnip seed?

A. We have the best results from about May 15th to 20th.

Brome Grass and Clovers.

By Angus Mackay, of Indian Head Experimental Farm.

I consider Brome a most valuable grass and am satisfied that in a few years it will be even more valuable than our wheat in the Territories. This Brome grass originally came from Russia six or seven years ago. It was sent to Dr. Saunders to test and among other varieties of grass it was tested on the Indian Head and Brandon Experimental Farms. Out of 40 varieties which were tested at Indian Head that year Brome and our native Rye grass (*Agropyrum Tenerum*) were the only two that stood the winter. The following year we sent to Austria and got 200 lbs. of it and also a quantity from Mr. Steel, of Toronto, and sowed all that the year following on the Experimental Farm at Indian Head. What we got in Toronto did not turn out well, but that from Austria did extra well, and we have been growing it ever since. In the early years we found difficulty from not knowing how to sow it to the best advantage. Two years we sowed it on summer fallow, and it was blown out. Since then we sow on stubble in the spring. Farmers here will understand why land that is worked into summer fallow state blows badly in the spring, and grass requires to be so near the surface to germinate that it is almost sure on summer fallow land to be blown out in the spring. Since then we have plowed stubble in the spring, between 3 and 4 inches deep, with a 3-inch mould-board plow, and we now sow the seed on the rough, harrow it two or three times, and then roll, and by plowing not too deep, we get the stubble on the surface which does much to keep it from blowing off.

One of the great advantages of this Brome grass is that, long before the prairie grass starts to grow, the Brome grass is green. There is not much growth in native grass in this country until the 1st of June, and we have had Brome grass as high as 15 inches on the 1st of June. Anyone can see that if a farmer can get Brome grass 15 inches high on the 1st of June, he will have good pasture to run his cattle in. The first fall the grass generally gets 12 to 18 inches high, but it is not wise to pasture it too soon. We generally turn our cattle in about the 1st of Sept., and from this until the snow comes we have good pasture on the Brome grass that we have sown that spring. The second year we cut the crop, and this grass produces a most abundant crop of seed, so that there will be no difficulty in a few years for the country to grow grass. From an acre of the first crop a man will get in the second year from 400 to 600 lbs. of seed. From 12 to 15 lbs. of seed is sufficient for an acre. Therefore, an acre of Brome seed will give the farmer more than he will ever require to sow down. There is one fault a great many people think Brome grass has—that it is a good deal like couch grass. Brome grass roots near the surface, and not deep, like couch grass. In five or six years it gets too thick, and instead of growing a tall crop, it is more suitable for pasture, and in dry years would take up so much substance that probably you would not get much of a crop. Last year we experimented in plowing it, and found there was no difficulty in getting it out. Sod that was sown three years ago was plowed up last year. It requires to be broken up the same as new land. My opinion is that in a few years this grass will take the place of manure for the regeneration of our soil. While I am doubtful whether we will ever be able to grow clover to man-

At the Dominion Clydesdale Breeders' annual meeting, held at Toronto, Feb. 8th, J. E. Smith, Brandon, was elected vice-president for Manitoba; J. A. Turner, Calgary, and J. M. Macfarlane, Saskatchewan, for the Northwest Territories. The Ayrshire breeders elected Geo. Steele, of Glenboro, and C. H. Manners, Assa., as the western vice-presidents of their association.

ure our land, I think in a few years, when we get into it, we can have a rotation of crops from this grass, which will answer the purpose of manuring, which all our farms will want in the future.

Another good quality of this grass is that you can allow it to go to seed, then cut it, and still have as good hay as if it were cut only for hay. We have in the past saved a great deal of grass for seed. Last year, after threshing our grass, we sent down a quantity of the threshed hay and seed and chaff to the Experimental Farm at Ottawa, and actually found that there was more substance in the grass cut for seed than the grass we cut for hay. It has always been supposed that when grass is allowed to ripen, it is not as good for animals as when cut in the bloom, when it begins to ripen. Now, the opposite is the fact with Brome. This year we have 22 tons, which we are threshing for seed, and we are threshing it and feeding it, and we have three tests going on. We are feeding good Brome grass against native grass; then we are feeding the hay which we cut for seed against Brome grass, and feeding Brome hay against wheat straw. The test has gone on for three months, and so far the hay cut for seed has given the best results. We have 12 steers up, and they have gained the most pounds of beef on the hay cut for seed. We have five or six varieties of hay in our stables that we have grown on the farm which we have not tested, except the native and the Brome hay, so far as giving the pounds of beef, but we find there is least waste in the Brome hay of any, and there is no doubt the animals are greedy for it, and will eat it before anything else we can give them.

Clovers have never done any good at Indian Head, which is one strong reason for our setting more value on this grass.

DISCUSSION ON MR. MACKAY'S PAPER.

Q. Do you find low or high land the best for it?

A. Low land is always the best, provided the water does not stand on it too long in the spring. Brome, although it requires a certain amount of water, does not do with too much. Last year we had no rains in the N.W.T. until the 15th of June, and where the grass was in low places we had a good crop, but on the high places we had only a poor crop.

Q. Will Brome stand the frost as well as the native grasses or timothy?

A. Yes, if the water runs off within four or five days. I believe it will make a very good lawn grass by sowing it thick and cutting often at first.

Q. Can you give us an idea of the best way to clean the seed?

A. We have a small threshing machine, with a tread power, but we use the horse power for it. We find no difficulty in cleaning it. We clean it in the ordinary Chatham fanning mill, shut off the wind, and put it through twice. You can hardly shut off all the wind of a fanning mill, but we shut off as much as we can and use a little shake, or else it will let the seed go out.

Q. What kind of sieves do you use in the Chatham fanning mill?

A. We use the wide sieves at the top and give them a good slant, and the close at the bottom. Very little goes out with the wind. We use sieves in the bottom, so that they will not catch.

Q. How many pounds of seed do you require to the acre to seed down properly?

A. For the last three years I have recommended from 15 to 18 lbs., but a year ago last spring we sowed 30 acres and put on it as near 18 as we could, but last spring was dry, and we found there was too much substance there. If we had

sowed 10 or 12 we would have had a third more crop. Would recommend 12 to 15 lbs. There is a possibility of having it too thin the first year. If we could get the seed from 7 to 8 inches apart, there would be plenty of seed on the ground and it would not require more than 7 to 8 lbs. to the acre.

Q. Would it make a permanent pasture?

A. Yes, but in time will get so thick, I do not know whether it will produce a great deal.

Q. You have not sowed the seed with any grain crop?

A. Yes, but found it did not work, as the grain crop takes all the moisture, and there is nothing to keep the grass alive in October. I think the safest way is to sow it alone. There are certainly cases where you can get a good crop together, but I do not see that there is anything to be gained by it. If we have a weedy place we put Brome there. We have a piece of about two acres. We spent something like two weeks pulling it before we seeded it down, and yet it has come up so thick that I intend it to remain in grass for its natural life. Not a bit of French weed has come up the last two years, and I am satisfied that if we plowed it up there would be French weed still.

Mr. Robson—I have sown it with oats, and it was too heavy and cut out the oats. I have sown it with flax. It did well, and I fancy with barley it would do well, too.

Mr. Graham—About a year ago I got 13 lbs. and sowed an acre along with oats. I had a very good crop. At the same time I sowed the balance of the field with timothy and got a crop three years in succession, and each year I valued the timothy as high as the other. A year ago last July I put the plow in, and last spring I sowed wheat, and I think the timothy run about 25 bushels to the acre, and before harvest time came on I was perfectly satisfied that the other was not going to amount to much, and I think I threshed about five bushels to the acre. Mr. Mackay has given us an idea about it in connection with the soil. I am much inclined to think he is right, and if he is, it is one of the best things about it, as it has such an underground growth, but I think it will require breaking and back-setting. I think the reason for having such a small crop was that before the wheat was anywhere near ripe the Brome had taken complete possession of the ground. The one plowing and four discings appeared to do it good.

Mr. Mackay—I had no difficulty in killing Brome the first three years, but it is hard for the horses if you let it go five or six years.

Irish dairy farming has its little deficiencies, according to an observant English farmer, who travelled through a rich district in the south. He says there are two sources of Ireland's woes that could be cured without the help of an act of parliament. The first is their wretched plan of haymaking. On July 21 last I went from Waterford to Killaloe, through a very fine country, but in all the lush meadows which lie between these two towns, during a journey of some five hours, I did not see a single hay stack. The crop of hay was magnificent, far finer than any I had seen in Somersetshire or even Devonshire; but yet, I aver, not a single haystack was in evidence. I returned along the same route about three weeks later, but the haycocks were still standing in the fields. I have to-day (October 5th) heard that the hay is now being moved and placed into stacks. No. 2 ill is the custom, after milking the cows, of placing the milk under the beds. From these two ills there naturally spring many others.

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Hints on Growing, Harvesting and Feeding Barley.

By J. H. McClure, Balmoral, Man.

[In this paper Mr. McClure gives, very much as the result of his own reliable experience, valuable pointers, which deserve special attention from every one who has a lot of annual weed seeds to fight against, and proposes to feed stock next year. Barley can be sown when horses would be half idle, thus economizing labor. Corn can never be imported as cheap as barley can be grown, though the essayist, for the sake of argument, admits it may be done. —Ed.]

Allow me to offer the farmers of Manitoba and the Northwest a few hints in regard to the growing, threshing and feeding of barley. Perhaps you will say, "What's the use? Since the duty has been taken off corn, we can get corn in from the States as cheap as we can grow barley for feed, and there being no demand for it for malting purposes, and likely to be less, we think it an unprofitable crop." Be that as it may, as a feed grain and a weed eradicator it has no equal in this country. Another objection many have to it is that it is a bad crop to harvest, the straw breaking down before it is ready to cut. That depends on the variety sown. If the Mensury or some of the stiff-strawed varieties are sown that objection will be overcome. In growing barley, let us first consider the land to be sown. If weedy and hardly clean enough for wheat or oats, it will suit all right for barley. Such land should be plowed in the fall, not deep. Then let it alone till spring, and if you have time harrow it then before you start seeding. When you have your other grain crops all in, then the last of May, or even the first week in June, the weeds being well started in your barley ground, plow it over again a little deeper than you did in the fall and harrow and roll it as soon as plowed, and your ground is ready for the seed.

Get good clean seed. Mensury, if you can, as it is a good yielder, and has stiff straw, and is six-rowed and matures earlier than the two-rowed varieties. Having got your seed, Bluestone it the same as you would do wheat, as you may just as well grow good heads as smut heads, and the increase in the yield will more than pay for the cost and trouble of bluestoning the seed. Then sow with a shoe drill, if you have one, as they will plant the seed nearer the surface and yet cover it. Two inches is deep enough, and the weeds will never catch that barley. For the last two years I have had over 40 bushels to the acre on land so cultivated, and they have not been extra years for yields, as anyone knows who is farming. Then, if you want a bright sample, cut the crop before it is dead ripe, when it is in the dough state before the kernel hardens, and the man that shocks should have a bag or sack tied around his waist to keep the beards from annoying him. Shock and cap, if the crop has to stay out long, as it often so happens that there is not time to stack it when it is dry, on account of the other harvest pressing, and when threshing have the thresher set his machine close, so as to take the beards well off, and you will have a crop that will make good feed, and cheap, besides cleaning your land of a host of weeds, and, if plowed as soon as the barley is taken off, and harrowed well, will be in fair condition for wheat and oats the next year. If the land needs manure, put it on before plowing after the barley crop is removed. Barley alone makes a good ration for pigs, if chopped and put into a barrel and scalding water put on it. For

cattle it does well mixed with oats, all chopped together, and, if boiled whole and mixed with bran, makes a good night feed for working teams (horses.)

Sowing Grass Seeds.

At the recent Winnipeg conventions considerable attention was given to the question of grass with or without a grain crop, and the best methods of seeding. Professor Shepherd, of Fargo, discusses the same points in the Dakota Farmer, and his experience is given here for what it is worth. Timothy and clover are among the easiest sown of all grass seeds, but our readers may get hints from him that will help in the handling of other seeds. He says: "I believe much of the trouble in getting a catch of timothy and clover has come from the practice of harrowing the grass seed in after seeding the land to small grain of some kind. As a result of reflection upon the subject I was led to try the experiment of seeding timothy and clover with an ordinary grain drill. The experiment was begun in the spring of 1895; wheat was sown first and afterward the grass was seeded by running the drill across the field at right angles to the directions which it was run in seeding the wheat.

"Two difficulties had to be overcome, viz., 1st, the grass seed fed through the drill too rapidly, and second, the wind blew the seed away after it had passed through the force feed before it reached the rubber hose which carries the grain down through the shoe of the drill to be planted. A great many things were tried which were calculated to make bulk, among which were shorts, bran, road dust, and common barrel salt, but none of them gave good results except the barrel salt. It was found that salt gave the desired bulk and was damp enough to make the seed fall into the hose after passing through the force feed of the drill.

"The grass came up quickly and made a strong growth before the wheat was high enough to shade it badly. Growing in drills crosswise gives the young grass plants a chance to develop their roots without being crowded so badly by the grain. It also gave a majority of the young blades of grass an undisputed right to the air and sunlight which falls upon them. When the attempt is made to harrow seed, the depth of planting is uncertain. Some of it will be planted very deep, other portions very shallow, and the remaining portion at all of the intermediate depths from very deep to very shallow. As a result the seed comes up very unevenly, while much of it is weak and has little vitality remaining when it reaches the surface of the ground.

"It was afterwards found that when the air was extremely dry the salt did not stay mixed with the grass seed, which caused it to be distributed unevenly. Our farm foreman, H. M. Ash, substituted ground barley to make up the bulk and to prevent the wind from blowing the seed away, he made a wind break of canvas, about eight inches high, and set it upon the frame of the drill behind the force feed. The ground barley was so badly injured by the grinding that it did not grow.

"The mixture seeded when salt was used was eight pounds of timothy, five pounds of red clover, and four pounds of barrel salt per acre. The method of seeding timothy and clover with a grain drill has been practised on a field scale here for the past three years and has given a uniformly good stand and a quick, strong growth. The drill is allowed to run as shallow as it will, and the seed is planted

from an inch and a half to two inches deep, at which depth the grass seed grows freely. I find such a pasture will stand pretty close feeding on our land."

Seed Wheat in the States.

An American exchange says there is a great scarcity of the best class of seed wheat on that side of the line, and they are finding out the folly of using any inferior grade as seed. In the past few years the quality of wheat grown in the Northwest has deteriorated. Ten years ago No. 1 hard was the contract grade in terminal markets, and for several years considerably over half the wheat received at Duluth was the famous No. 1 hard. Later this grade became scarcer and the grain dirtier, so that contract grade was reduced from No. 1 hard to No. 1 Northern. The crop of the last year has been alarmingly short of even No. 1 Northern, not 15 per cent. of the wheat received at Minneapolis for months having come up to grade. The cause of this is supposed to be due more to a continual use of the same seed than to impoverishment of the soil, and a general effort is being made in both States to import seed. Scotch Fyfe wheat from further north, Manitoba, and the valleys of the Saskatchewan and Peace Rivers will be sought, and it is hoped so to improve the strains of wheat in the States that for years No. 1 hard will again be common. It takes less of hard wheat to make a barrel of flour than of any other grade.

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DR. BARNARDO'S HOMES.

The managers of these institutions invite applications from farmers and others for boys and youths who are being sent out periodically, after careful training in English homes. The older boys remain for a period of one year at the Farm Home at Russell, during which time they receive practical instruction in general farm work before being placed in situations. Boys from eleven to thirteen are placed from the recently established distributing home in Winnipeg. Applications for younger boys should be addressed to the Resident Superintendent—115 Pacific Avenue, Winnipeg,—and for older boys, possessing experience in farm work, to Mr. E. A. Struthers, manager Dr. Barnardo's Farm Home, Russell, Man. [1927]



Tree Planting.

By Henry Abbey.

What do we plant when we plant the tree?
 What do we plant when we plant the tree?
 We plant the ship which will cross the sea,
 We plant the masts to carry the sails,
 We plant the plank to withstand the gales,
 The keel, the keelson and beam and knee—
 We plant the ship when we plant the tree.
 What do we plant when we plant the tree?
 We plant the house for you and me,
 We plant the rafters, the shingles, the floors;
 We plant the studding, the laths, the doors,
 The beams, the sidings, all parts that be—
 We plant the house when we plant the tree.
 What do we plant when we plant the tree?
 A thousand things that we daily see.
 We plant the spire that out-towers the crag,
 We plant the staff for our country's flag,
 We plant the shade from the hot sun free—
 We plant all these when we plant the tree.

Manitoba Horticultural Society.

The annual meeting of this society was held in the City Hall, Winnipeg, on Feb. 18th, Rev. Professor Baird, president, in the chair. The report of the directors showed that two public meetings were held during the year, at one of which Mr. S. A. Bedford, of the Brandon experimental farm, read a paper on shrubs and perennials, and at the other Rev. W. A. Burman a paper on prairie flowers suitable for cultivation. Last spring the executive committee offered, as a bonus to all members, a choice of one parcel out of three, of which one included raspberries, two varieties; another, two hardy flowering plants; and the third, five greenhouse plants. Forty-one parcels were sent out in terms of this offer. The society reported 50 members, as compared with nineteen last year. Two prizes were offered at the Winnipeg Industrial Exhibition for named varieties of prairie flowers, and the interest in the prizes was shown by very keen competition. In the way of plans for the future, the report recommended that the papers and addresses given before the society be published, and that a closer relation be established, perhaps in the form of affiliation, with the kindred society in Minnesota, and also with the society at Brandon. It was subsequently agreed that in terms of the report, affiliation take place with both societies.

The report of the treasurer, W. G. Scott, showed a revenue for the year of \$54, altogether from members' fees, and expenditure for bonus to members, for exhibition prizes and for stationery, amounting to \$35.86, leaving a balance on hand of \$18.14.

Officers for the year were then elected as follows:

President—Rev. Prof. Baird.
 Vice-presidents—S. A. Bedford, Brandon; R. S. Thornton, M. D., Deloraine; E. A. Struthers, Russell; A. P. Stevenson, Nelson; R. Alston, Winnipeg; Angus McKay, Indian Head.

Secretary—A. Forrest Angus, Winnipeg.
 Treasurer—W. G. Scott.
 Councillors—Rev. Dr. Bryce, G. H. Greig and H. C. Whellams.

A paper on fruit growing was then read by A. P. Stevenson, Nelson. His views on this subject have already become pretty familiar to the readers of *The Farmer*. He gave details of the way in which cherries should be managed, but very few are likely to take up this as a part of ordinary farm gardening. Only the Moore's early grape can be tried here with any chance of success, but even that requires a first-rate exposure and shelter of the best. For most fruits here a northern exposure is best, if well sheltered all round, and even then special care must be taken to prevent bark bursting and root freezing. This is best done by boxing up the trunk with boards reaching from the ground to the lower limbs, filling the box with earth. This can be taken off as the weather gets warm in May, and keeps the tree from the risk of black heart. Bark-bursting is generally more noticeable the first and second years after planting, especially if a vigorous growth has been made the past season; examine the trunk carefully close to the ground and under the ground, and, if you find the bark burst away from the wood, wrap it tight around with a strip of waxed cotton, then bank up with earth to exclude the sun. Root-killing arises from young trees being grafted on tender roots and planting too shallow in our warm, deep soil. Our dry winters and extreme freezing kill the tender roots, and your tree dies. The danger is greatly increased if, during the winter, the snow-fall is light or the snow is blown clean from around the trees. In 1893 from this cause alone I lost over two hundred apple trees. They all budded out nicely, showing that the tops were hardy enough, but they never got any further. On examination the roots were found killed on all trees around which no snow had lain. The best remedy for this trouble is to plant deep, so that the scion will emit roots; then plant the spaces between the trees with small fruits. I believe in close planting; 12 feet apart each way is far enough, and lean the trees to the southwest, head two feet from the ground. Never let the tree lean to the northeast, which it will have a natural tendency to do, or the blazing sun in March will get in its deadly work. Plums are supposed to succeed best, when a number of varieties are planted together, but six feet apart each way is close enough. Train to a single stem at least two feet before heading. You will in this way overcome the difficulty often met with of the limbs giving way at the crotches. This trouble is often met with. I find a wire nail, driven through the centre of the crotch, helps over the difficulty.

Some weeks ago a critic overhauled, in the *Brandon Sun*, the opinions given in the January issue of *The Farmer*, on Page 32, about seedling plums. The anonymous writer of that criticism probably does not know one-tenth of what Mr. Stevenson does along this line, and we invite him, and all others who think with him, to read what follows. We challenge him to show, any time next year, one seedling wild plum out of 50 that does not justify Mr. Stevenson's verdict on the policy of trying to get good plums in that way.

Now, says Mr. Stevenson, a word about seedling plums. Perhaps I am somewhat prejudiced against them, but briefly let

me give you my experience with them. A friend gave me a dozen seedlings, which he said were from an extra fine wild plum. They all grew and flourished, and for five years I hoed around them and gave them every care and attention. In their sixth year they came into bearing. I let the fruit ripen, and, well, vile! was no name for it. I let them go for another year, but saw no improvement. Then, after a hard day's grubbing, they were got rid of. Three years ago some Wever seedlings were planted. They carried some specimens of fruit last year, and, judging from its quality, some more grubbing will be the order of the day. These are my reasons for being shy of plum seedlings; they are an unknown quantity. Budding, grafting, or piece roots, are the only methods known of getting trees true to the original. Only by wise selection can our native plums be improved.

Mr. Stevenson goes on to say. Thousands of dollars go annually out of the country for fruit stock that is only useless trash here. I say, beware of the man who sells wonderful new things at extravagant prices. In spring he works the ambitious novice who is anxious to get some of the novelties before his neighbor has thought of it. For instance, tree raspberries and strawberries. In the fall he may be seen unfolding his lovely colored plates to some solitary farmer, whose mouth is watering for the luscious fruits of his early days in the Eastern Provinces. Somebody is quoted as saying so and so. After a season the world gets tired of its old truths, and, hungering and thirsting for a good lie, will swallow anything. I wonder if that is the reason people take so kindly to a canvasser of unheard of horticultural novelties. The far-fetched and dear-bought theory is the biggest humbug in the world when applied to trees. Might I suggest that there is a capital opportunity presented here to our society to step in and do their best to lessen this evil.

Rev. Professor Baird then read his paper on "Winter Protection of Plants," as given below. R. R. Scott, manager of the McPherson Fruit Co., Winnipeg, read a paper on the "San Jose Scale," which parasite is being used by Eastern fruit growers as a reason why importations of fruit and trees from the south should be prohibited. Such prohibition would be very injurious to Manitoba. (We all know that most of the eastern fruit trees and bushes sold in Manitoba are inferior to the same sorts brought from Minnesota.) Mr. Scott spoke of the miserable, dirty peaches imported from Ontario. If the importation of inferior fruit were prohibited, very little fruit would come from Ontario. In conclusion, he urged that the very best nursery stock and the very best fruit be purchased.

Rev. W. A. Burman addressed the convention on the protection of birds. He began with a reference to the importance of birds in relation to horticulture and agriculture. It had been said the gardener is a friend of the birds; he suggested that the birds were also friends of the gardener, excepting the English sparrow, which he would prefer to call the European sparrow. Discussing the carnivorous birds, hawks, owls, etc., he suggested that any person shooting these should be prosecuted. Where these birds were allowed to do so, they kept the gophers and mice in check. They might take a chicken or two. Well, they earned it, because they enabled the farmer to raise grain to feed the rest. The badger was also a friend of the farmer—but the badger was not a bird. Insectivorous birds did a great deal of excellent work. Fly catchers, wrens, chickadees, and other small birds, feed not only on insects, but

also on larvae and eggs. Insectivorous birds, besides checking the surplus of insect life, they affect the setting and the ripening of fruit. Mr. Burman spoke also of the graminivorous birds, saying that these were not always friends of the farmer. He gave the "European" sparrow a bad character, showing how it drives out other birds and feeds largely upon the products of farms and gardens. He advised all to do everything possible to encourage birds to come about their homes.

EVENING SESSION.

The proceedings of the evening opened with a paper by Mr. Angus Mackay, superintendent of the Experimental Farm at Indian Head, on "Trees and Shelter Belts." Mr. Mackay recommended that windbreaks for fields be a single row of cottonwood and box elder planted together, the cottonwood to give height and the box elder for thickness. The single row, he said, is quite sufficient for protection, facilitates cultivation and permits sufficient wind to get through to prevent crops suffering from intense heat in mid-summer. For buildings he recommended hedges of Russian willow and box elder; while for lawns, small fields and gardens nothing was better than the ordinary southern wood, as it attained a sufficient height, was thick at the bottom, and in winter held the snow well, which was as valuable as windbreaking in summer. He went into details as to ways of planting, advising that the distances between rows be not too great, and, on the other hand, that they be not placed too close together. While protection from sun and hot winds was to be secured, the earth must not be too much shaded, as was done when too many maples were planted. On the other hand, where there were too many ash, there was not enough leaf. He told of alternate rows of ash and maple planted six years ago, which gave the best satisfaction. Ash planted in this way, in runs four feet apart, had grown to 14 feet in height, while others from the same seed, planted together, were only three or four feet in height, the highest being not over five feet, owing to want of protection in the early spring, when the winds dry out the soil too much. Similar results followed from planting elm and maple in the same proportion. White ash was the most valuable tree for forest culture in this country. A question asked as to his success with evergreens, Mr. Mackay answered by saying, very little. Great difficulty had been found in transplanting. Last year 150 trees that had been growing since 1889 were transplanted, and the wind killed every tree. The only chance was in planting from the 1st to the 15th of June, as soon as the rain starts. In the course of the further conversation, Mr. Mackay said that the snow-berry made the prettiest hedge for a very low one around a small flower garden.

WESTERN TIMBER SUPPLY.

"The Preservation and Renewal of the Western Timber Supply," was the subject of the next paper, which was read by Mr. E. F. Stephenson, crown timber agent, Winnipeg. He showed that the Dominion Government is anxious to protect our forest growths, but must have the hearty co-operation of the people, if their efforts are to be successful. It may not be out of place, however, to state briefly what has already been done by the government in the direction named. All lands valuable for timber are being reserved from sale and settlement, and where timber grows in very heavy belts, such as in the Riding Mountains, the Turtle Mountains, the Moose Mountains, and the belt of timber known as the "Spruce Wood," south of Carberry, permanent timber re-

serves have been established. The area comprised within the reserves selected is upwards of 1,500,000 acres. They are in charge of competent bush rangers, who will shortly be engaged in laying out a system of fire guards, to be cut out during the coming spring and summer. Nature has made it an easy matter to carry out the work, owing to the numerous lakelets within the reserves. These will be used, when practicable, in forming portions of the line. It is proposed, in constituting the lines which will form the fire guards, to make them from 50 to 100 feet in width, as conditions may require, and to plow up the outer edges to a sufficient width to make it safe to burn between them. If, in the following year, harrowing is not found sufficient to make an effective break, re-plowing will take place, and afterwards, at the most favorable time, the strip between the guards burnt off.

THE DANGER FROM FIRE.

The danger from fire to these belts of timber comes chiefly from the west and northwest. There are two causes which, as appears to me, explain this. The first is that the prevailing winds in the fall of the year, when the prairie fires are most prevalent, come from a westerly direction. The second, that while settlement is generally found on the east, north and south sides of these belts of timber, thereby affording a means of check to the fire coming from that direction, there is practically little or no settlement on the west. Speaking from my own observation, I

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Our No. 2 Collection contains 16 packets for 50c, as follows: Bean, dwarf; Beet, Carrot, Corn, sweet; Cucumber, Cabbage, Celery, Lettuce, Musk Melon, Onion, Parsnip, Parsley, Peas, Radish, Tomato, Turnip, and one packet Wild Garden Flower Seed Mixture.

Our No. 3 Collection contains 8 packets for 25c, as follows: Bean, Beet, Carrot, Onion, Radish, Lettuce, Cucumber, Peas. The above sent post paid to any address on receipt of price. Our Handsome Illustrated Catalogue containing other great offers mailed free to any address.

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have little hesitation in saying that within the last fifteen years our timber resources have been diminished one-half; whereas, with adequate protection from fire, the natural increment would have been far more than sufficient to have supplied all demands, without any diminution whatever. Many settlers who, a few years ago, had wood conveniently near their farms, have now to haul long distances, in many cases under trying conditions, to obtain their supplies, or else are dependent upon coal. Instead of their fuel costing them nothing, as in former years, they are now in the position of having to pay from \$30 to \$50 a year for this commodity. What this condition of affairs would mean if it became general can easily be imagined. More loss of timber was caused by last year's fires in Moose Mountain and Turtle Mountain reserves than would supply the settlements depending on them for twenty years. A bush fire, when once well started, cannot be extinguished by any present known means. Backfiring was tried without any apparent success, and the fires ran their course, regulated only by the wind, and died out when stopped by natural causes. Forest rangers will be placed in charge of these reserves the year round, and it is expected that, with the aid of properly constructed fire-guards and with the assistance of the municipal fire guardian service, the chances of fires getting into the timber on the reserves will be reduced to a minimum. It is a regrettable, but an undoubted, fact, that the settler, who is reaping the largest benefits from the preservation of the timber, and who has the most to lose by its destruction, is largely responsible for its diminution. The future is simply not taken into account by him. Economy in the cutting of his timber is not considered, and more timber is frequently left on the ground where felled than is taken away. Experienced men go into the woods for a set of house logs; upon being cut, a portion of the logs are found unsuited for the purpose intended, and are left lying in the woods; thus two trees are often sacrificed where only one is made use of. And the same thing may be said of the taking of timber for fuel; only the best part of the tree being taken, the remainder being left in the woods to be a menace to the green timber in case of fire. This condition of affairs will be tolerated no longer. The government timber regulations, now in force, provide that a settler cutting under permit shall take from every tree felled all the timber there is in it; and, further, that the tops of trees and other refuse made in the cutting shall be piled up in one place, and not left, as heretofore, scattered through the bush. It will be the duty of the forest ranger in charge of the reserve to see that these conditions are rigidly enforced.

Another source of great danger to the forests from fires is that large numbers of settlers go to the sloughs and lakelets in the woods for their hay, which is found in abundance in some places. There are some settlers who, as a means of escaping the trouble and expense of clearing lands by hand, have resorted to the use of fire. The fire that occurred at Moose Mountain last summer, previously referred to, is said to have originated from the burning of one of these hay sloughs in the timber. Fires are also started by settlers clearing their lands of timber for cultivation. I have many proofs of this. Hunters, fishermen and Indians are also responsible for starting many of the fires which have done so much damage to our forests. The mining prospector has already burnt more good timber in Eastern Ontario and the Lake of the Woods district than all the discoveries he makes will ever be worth to the country.

As remedies, Mr. Stephenson points to

improved public sentiment, with more vigilant attention to enforcement of the existing laws. It is not yet too late, by giving due attention to this subject, and by putting into operation the general principles which underlie forest management, to recover much of the loss that has already taken place, and to ensure an adequate supply of timber for future generations in Manitoba and the Northwest Territories. Where fires occurred in most places a new growth is springing up, which will under proper forest management, in a few years grow to be useful timber. Keep down fires and restrict cutting to the dry and fallen timber, and mature trees, and there need be no alarm felt for the future in respect to timber supplies.

Bee Keeping.

S. A. Bedford, superintendent of the Experimental Farm, Brandon, read the last paper of the convention, the subject of which was "Bee Keeping." Among the advantages of this industry enumerated were that it utilizes a waste product; that it furnishes a delicious food for the table, and that it opens up a wonderful world to the student. Its importance was shown by the fact that the production of honey in the United States in one year was worth thirty million dollars. In showing the suitability of this country for bee keeping, Mr. Bedford found, in his seven years' experience, that there are over sixty plants here on which bees feed. Through the season there are different plants coming into bloom right up to frost. Bees feed on gum weed perhaps more than any other; others were golden rods, queen of the meadows, fire weed, basswood. There were also a great many cultivated plants, sweet clover, alsike clover, white Dutch clover. Native maples give a small quantity. To succeed one must have a natural fondness for bees. A suitable location must be chosen. The wide open prairie was not recommended; bee plants were not plentiful, and the bees were too much exposed to wind. Artificial protection could be provided by means of a tight board fence. There should be a knowledge of business, which was very readily acquired. A certain amount of patience and perseverance was needed, and one must be willing to take pains in small matters. To start, a few colonies only were needed; he thought two were sufficient. Get a bee book. The best way is to study, and then practice, the operation. The quantity of honey gathered from each colony varies from nil to 150 pounds, the average being 40 to 50 pounds. Working for extracted honey is easier for the amateur than working for combs; the latter encourages excessive swarming. It is better to keep the colony strong. In the spring do not remove the hives from the cellar until the willows are in full bloom. Then place the hive facing the east, and within six inches, or within three inches of the ground; if it is put on the ground it becomes damp. As soon as you find the bees working on the outside combs, give them more room, they are getting crowded. If you are working for extracted honey, give them plenty of room. The speaker was afraid of taking the hives into the cellar too early in the fall, when the temperature is too high; keep it as nearly uniform as possible. Look out for mice. There is room for a great many more bee-keepers in this country. We have a more favorable climate than that of the east. Those living in villages and cities, as well as people in the country, can take part.

Mr. Bedford, in answer to a question, recommended the pure Italian bee. How

much honey could be extracted depended upon the season. The honey of this country is superior to that of Ontario. To avoid excessive swarming, he would give more room. He seldom required to give feed; when he did, he gave candy. A hive would cost here \$7 to \$10; \$30 would start an amateur very well. Hives should be placed where they will get the morning sun, not the mid-day sun.

The Winter Protection of Plants.

By Rev. Prof. Baird, Winnipeg.

The Horticultural Society, I venture to think, can scarcely render a better service to its members and the public generally than to make public what is known already about the classes of plants that can, with a little care, be carried through our Manitoba winter, and if possible extend the range of plants capable of being cultivated here by studying how plants with which we have hitherto not been successful may, by the adoption of improved methods, be assisted to withstand the rigors of our severest seasons. This is a subject upon which we can get little help from our friends to the south, the east and the west of us, and we are, therefore, left to work out our own destiny and discover what plants will live in a state of nature with us, and what, by the exercise of a few artificial precautions, can be helped through the winter.

My own three or four years of experimenting, of which I have only recently begun to keep any memorandum, will throw only very little light on the subject, for the conditions of success are so numerous and so complex that one is obliged to verify his tentative conclusions through a series of years before he can announce them with confidence. What I have to offer is, therefore, only a single contribution towards a body of knowledge which will only be arrived at after we have all observed and experimented and reported for a few years. And there is abundant encouragement for us to go on in this line. Who in Manitoba would have believed half a dozen years ago that hybrid perpetual roses can with safety be wintered out of doors with us? And yet this is one of the conclusions which I think I may venture to say is now pretty well established. Who among us would not have laughed a few years ago at the enthusiast who first risked his tulip bulbs by putting them into the ground in October? But it has been done time and again with such success that it does not require a prophet to say that soon tulip bulbs will be planted by the thousand every autumn in Winnipeg and throughout the west.

Allow me to call attention to some general considerations which are of importance before going on to note the methods to be employed in the case of each species. It is very desirable in the case of a half-hardy or tender plant that it should be prepared so as to enter the winter in as good a condition as possible. In other words, the woody part of the plant should be ripened as well as possible. Let the growth be as rank as you like in the spring and early summer, but do not, by abundant watering, or by the use of manures, encourage a strong growth in the later part of the summer. The pinching back of raspberry canes is usually done to make the plant branch out and so bear more fruit, but it is good for this purpose, too, that it hinders growth later in the season, so the cutting back of roses will prepare the bushes for going into winter quarters in a much more satisfactory condition.

Again, the conditions of success in winter protection. One is to have a substantial covering over the plant, so that the alternate freezing and thawing of spring days and nights, may not do injury, the other condition is not to have this covering so close as to smother the plant. Leaves, which are so recommended in eastern horticultural journals, are unsatisfactory, because (not to speak about being hard to get) they are so liable to blow off and leave the plant exposed. Straw manure is liable to the same objection in windy situations, and where there is nothing else to be used, as in the case of strawberry beds, it is well to add a few branches of trees, which not only keep the straw from blowing about, but these have the additional merit of holding the snow.

To obviate the smothering of the plants, the best method in my experience is to cover the plants with inverted sods, laid in such a way that there are some air passages underneath and among them. If this is done in a neighborhood infested with mice, it will be necessary to guard against their depredations by scattering some handfuls of poisoned wheat about the mounds.

It is also very desirable to have the wintering plant kept somewhat dry. Nothing is more certainly fatal to it than that it should stand in a pool of water for a while in the early spring. And it is good policy, in the case of the more tender plants, to cover the mounds with tar paper or with packing cases, to keep off the wet.

Now, to speak more in detail about the course to be pursued with regard to various kinds of plants, it is to be noted that some require no winter protection at all. Small fruits, like currants, Downing gooseberries, Turner and Philadelphia raspberries, do quite well without any winter protection, although in the case of raspberries it is altogether better to cover them, because it brings them through the winter with unimpaired vigor, and because, if they are branchy, as they ought to be, the melting snow is very liable to break off the branches.

Many of the perennial flowers, like the delphiniums, humocallis, perennial phlox and sweet William, do quite well in an ordinarily sheltered situation without any protection, but it is safer to scatter a little litter over them; and there is also a long list of flowering shrubs which are quite independent of any artificial covering during the severest winter and the most unevenly regulated spring.

There are, on the other hand, some plants ordinarily reported hardy, which have not proved to be so in my experience. I have tried twice to bring hollyhocks through the winter out of doors and have not succeeded, although the Indian Head experimental farm reports that it succeeded in 1894. My efforts to winter hydrangea paniculata successfully have been disappointing, but on this line I have not given up trying. But between these two extremes of plants that need no protection and plants that cannot be protected there is a large class that will richly repay a little care.

The best way to protect raspberries has been often described, but possibly there are some here for whose benefit it may be repeated. After the old canes, and all but five or six of the new ones, have been cleaned out, take out with a digging fork a little earth from one side of the roots, then loosening the roots on the other side also a little with the fork, bend the canes gently over till the tips reach the ground. Take care to do the bending as much as possible in the roots, so that the canes need not be bent sharply over and broken. Have a boy to hold down the canes while you place a few shovel-

fuls of earth on them to hold them in position. Even for the tender or half-hardy kinds, like Golden Queen and Cuthbert, it is not necessary to cover the whole plant with soil. All that is needed is to cover it partially, so that it will get the protection of the snow during the winter. The work is very easily and quickly done. A man and a boy can lay down snugly a long row in a very short time, and it is a great pity to run the risk of losing a part or the whole of the next season's crop for want of a few hours' work.

For roses the plan is very much the same, only that more pains are taken. The ground about the root is loosened sufficiently far down to make it possible to lay the plant over on its side. Then it is covered with inverted sods laid in somewhat open order, and the whole is covered with a piece of tar paper to keep out the rain. By this means even tender roses can be kept safely through the winter. It proved successful last winter in my garden with the hybrid perpetuals, Duke of Edinburgh, Alfred Colomb, Mrs. John Laing, General Jacqueminot and Paul Neyron; the climber, Crimson Rambler; the moss roses, Glory of Mosses and Henry Martin, and the Lord Penzance Sweet Briars, Amy Robsart and Anna of Geierstein. Those which succumbed were the hybrid perpetuals, Gloire Lyonnaise, Black Prince and Dinsmore, and the climber, Mary Washington—probably from being covered too closely. But perhaps last winter, with its early and abundant snow fall, should not be quoted as an average winter, especially when we know on good authority that the tea rose, Madame Caroline Testout survived the winter in Fort Ronge without any protection whatever. There are many roses which will live through our winters without being covered at all. Roses of the Rugosa class need no care. The yellow roses, Persian Yellow and Harrison's Yellow, are perfectly hardy. My friend, Professor Hart, has had for a number of years in his garden a moss rose, a yellow rose (probably Harrison's Yellow) and a small pink rose, which have lived and bloomed year after year without protection, although they are often frozen back considerably. The garden is tolerably well protected by the house on the north, a close board fence on the south and west, and by trees.

The proper time in the autumn to begin to protect plants is when the frost begins to stiffen the ground, usually in the first week in November, and the covering ought not to be taken off until the plants are about to start into life. The mistake is often made of uncovering too early. Indeed, if by leaving the covering on the beginning of growth in strawberries or raspberries can be delayed for a week, the plants will have escaped very likely one of their greatest enemies—the danger of frost while they are in bloom.

The fruit grower and the flower grower in Manitoba have to face and to conquer difficulties which do not beset the cultivator in milder climates. But, what of that? Difficulties exist only for the purpose of being overcome. Anybody can grow flowers in California or British Columbia; it is only the man of intelligence, of perseverance, and of watchfulness, who can succeed under conditions which are as new and some of which are as untoward as ours.

At the annual meeting of the Brandon Horticultural Society the following officers were elected for 1898: Hon. president, Senator Kirchhoffer; president, F. H. Hessen; vice-president, H. W. O. Boger; secretary, Mr. Middleton; committee, D. H. Scott, W. Warner, S. A.

Bedford and P. McKenzie. H. L. Patmore was named as the society's representative on the board of directors of the Western Agricultural and Arts Association. It is the intention of the society to hold an exhibition of flowers, etc., the first week in August next.

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OF INTEREST TO MEN.

The attention of the reader is called to an attractive little book lately published by that eminent Expert Physician, C. H. ROBERTZ, M.D., 252 WOODWARD AVE., DETROIT, MICH. This book is one of genuine interest to every man and its plain and honest advice will certainly be of the greatest value to any one desirous of securing perfect health and vigor. A request for a free and sealed copy will be complied with, if addressed as above and the Nor-West Farmer mentioned.

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THE NORI-WEST FARMER
WINNIPEG

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Manitoba Horticultural Society, 1898.



Prize Competition for Ladies.

The Nor'-West Farmer will offer monthly, for the present, a handsome Fancy Leather Purse, with name printed thereon in gilt letters, to the competitor who sends us by the 20th of each month the most instructive letter on any topic suitable for our "Household" readers. Competitors must be females, and on the top left-hand corner of the envelopes containing the letters must be written the word "Household." The prize will not be awarded to the same person twice. Address, The Nor'-West Farmer, Box 1310, Winnipeg, Man.

The Pioneer Farm House.

By L. J. W., *Montgomery, Assa.*

I dare say the reader has often thought just what the farm house should be like, and each and all have their ideal; but the woman, who, with the simple little things that would not for a moment be considered in adorning a city or town house, makes her little home cheerful and attractive, is to my mind the ideal farmer's wife.

No thanks to the woman who can choose what she wishes, and has the money to pay for it; but the average country woman must simply do without those things that cost money. But, after all, money is not indispensable in beautifying the farm house. I mean, of course, the small farmers, not those who have almost made their fortune at the business, for the order of things now is that the successful ones have their homes furnished quite as well as those of their city friends, and well they deserve to; but I speak of those who have not yet outlived the log wall, and, oftentimes, the sod roof.

Where would be the simple, little huts, could we bring into them the dainty water color, or delicate bric-a-brac? In the shade, the reader would say. Yes, and I am afraid if we could try it we would wish the shade to be very deep, indeed—deep enough to hide either one side or the other. I once thought that nothing could make those places look comfortable, but I have had reason to change my mind. Let me tell you of one little home. I shall not speak of their circumstances, only to say that were it not for the industrious hands of the little house mother, that home would be no better than those of their neighbors, who are contented with a cold cabin, with a leaky thatch, and one little half window in the whole house, where misery and discomfort is the order of the day.

This house is of logs, with a well-shingled roof, and inside and out the walls are whitewashed beautifully white. For summer pretty climbers and climbing vines are trained up one wall, entirely covering a tiny porch at the front door, and outside of one window, reaching all along the south side, is a long, lovely bed of sweet peas, and with every breeze is wafted the delicious fragrance to refresh the busy little woman who has cared for them so tenderly. Just now they are resting, but, if you enter that little home, your eyes will be delighted with a lovely table of flowers in full bloom, for she is always careful to have some to bloom in winter, and bloom they do, as though

they were aware of how much they meant to her.

There are three rooms in the main part of the house, two bedrooms and a living room. In one corner is the cupboard—it was built in when the house was made. Inside of it the walls are papered with a paper representing light-grained wood; the shelves are covered each week with clean paper, and her plain white dishes arranged as carefully as though they were of the finest china.

The windows of this room are curtained with pretty chintz, and the blinds are snowy white. On the walls are quite a number of pretty tasteful pictures, and all have simple gold frames. There are many little brackets, whose draperies are the work of the little house mother, and without spending one cent for material (a contrast to women who expend many dollars in the year for material to work impossible dogs and flowers in worsted.) A small bookcase is on one side, holding perhaps a score of books. Toward this last the longing eyes of the mother often turn. She does not get as much time for them as she would like; they were the beloved companions of her earlier days, and to her the works of Dickens, Goldsmith, Scott and Lytton can never be merely books, but dear old friends.

A comfortable lounge has been made of a long, narrow dry goods box, and is well stuffed and covered with a pretty cover made of the brightest pieces her patch-bag contained. Several chairs (all of home manufacture) are around, and each has a bright cushion, and in summer a neat white tidy is tied on the back of each chair—tied on to prevent walking off with the occupant. One easy chair is made out of a barrel, and I can vouch for it as being very easy indeed. Several neat home-made rugs cover the floor.

When a friend asked her: "However do you find time for it all. I know you always seem busy, but do you never tire of the ceaseless round of drudgery?" "Well, as for time," she replied, "I just make use of those little moments that go to make up our lives; and I don't drudge, my dear. My home is my little world, you know, and my work is no stern, hard duty, but a real pleasure, I assure you."

There lies the secret of that happy home. It is a work of love. She makes everything around her so cheerful that blow the winds ever so loudly, her good man's face brightens as soon as he crosses his own doorstep. Even if crops are bad, he forgets to grumble, for she meets him with a face that the lines of time have only softened. Wives of the prairie! we have more at our command than we think. Let us not waste our time grieving for fine dress and dainty ornaments, we would have small use for them; but let us, with just the little things we have, do our best to brighten our homes. Let us hunt out those inexhaustible piece-bags. We will be surprised to find what we can do with their contents when we really try. Let us have flowers, plenty of them; and, above all, some for winter. Let us have our little homes so cheerful and bright that we will not mind those long winters, and home will soon be the one place in all the world where our husbands love best to be.

Ideas and Suggestions for the Household.

By *Sympathy, Ebor, Man.*

Here are a few ideas that may help some of the busy mothers of Manitoba, particularly those who try to do all the work of their household with, perhaps, from six to eight little children. What an immense amount of work has to be done by their head, heart, hands and feet,

and on that work being well done or ill depends so much of the health, comfort, morals and manners of the families now, and the welfare of society in future. To those over-busy, conscientious mothers who are so anxious to do their life work well, but are in danger of being overwhelmed or discouraged, there is so much to be done, these few ideas are directed. Some of them may be new.

Have you any idea, my dear friends, how much depends on yourselves? Or, do you think how much can be done to simplify work, not to slight it, so you can do a little in all the directions it is necessary to be done?

If mothers would only take advantage of every possible means of getting over their work in the easiest way, when it is just as well in the end, as doing it in the old roundabout way. So much can be done to make washings easy by having scarlet or grey blankets, grey flannelette sheets, Turkey red pillow cases for children's beds, bunks or shake-downs, and are quite as comfortable, and can be kept clean and wholesome with half the hard work that it takes to keep white clothes presentable. The little woven under-clothes, grey and navy blue flannels and serge, is so much more sensible for children's clothes than light colored things. Just think what a washing of clothes like these can be done in a few hours, if you have a first-class washer and wringer.

Of course, you must have a boiler of suds as well. But you say you have none of these things. Well, every mother of a little family ought to have them, just as well as the men have a mower and horse-rake. Lay your plans with a little tact and argument, see what can be done to save your life and strength, and, instead of your aching back and hands sore with rubbing the clothes to rags on the old board, washing will be a pleasure in comparison. If the husbands only knew or cared to find out the difference, it would make to have some of these helps to do the work, even if they did not turn and help, for hard work is not easy at any time. With the washer you can use such hot water: it is nearly half the work, and even a lot of dirty sox, that have quite a quantity of the garden or summer fallow on them, can be washed and wrung with such ease and speed. Try the scrubbing brush on the most soiled places; lay them on the board in the first water, and so it disappears after using the brush. In summer hang up pants or heavy shirts out of clean water, without any wringing, smooth out fronts and bands with your hands, and they won't need ironing. Try and have a clothes line with four sides to catch the wind whichever way it blows; three at least. Make a canvas peg bag like a fish basket, with strap over left shoulder and bag under right arm. Then you have two hands free to work. Never use a bag with draw-string.

Prints (very few of them are necessary) with a very little starch, wash easier, and should be hung in the shade; the sun fades them when wet. It is a little trouble to keep a slop pail for all slops that are not fit for the swill pail, but it pays to carry all such out to the garden. What more disgusting sight than to see a great, rough, glare of dirty ice all around the door, besides being so dangerous to health when spring comes round.

If you are not very strong (and how sad it is that there are so many "not strong") you would be surprised how many odd jobs can be done quite as well when sitting as standing. It is not laziness—it is a sensible way of saving one's strength. You can make a little time by folding, instead of ironing, nearly all the clothes neatly, and take the extra time to mend something that needs to be done so badly, or to rest your tired body and mind. My friends, it pays to mend, if you do it in time. Of course, some

BARGAINS IN FARM LANDS.

Notwithstanding the demand for farm lands, particularly in the eastern half of the Province, and the consequent advance in prices, I have resolved to offer the lands in the annexed list at the old reduced figures, and in some instances at prices lower than they have yet been offered at. I desire to sell quickly and cheaply and on terms that will suit anyone, namely, one-tenth cash, balance in nine equal annual payments; interest at 6 per cent.

Where preferred, I shall also sell on the crop payment plan.

Write me or call when in the city.

ST. ANNE'S, PLYMPTON & LORETTE DISTRICTS.

1.—S.E. $\frac{1}{4}$ 18, 10, 6 E . . .	50 acres under cultivation, house and stable, near Plympton . . .	160	\$ 1000
2.—S.W. $\frac{1}{4}$ 24, 7, 7 E . . .	Log buildings and large cultivation, near Giroux P. O . . .	160	500
3.—Lot 5, Lorette . . .	Improved farm, cheap, superior buildings, 4 miles E of Lorette . . .	177	1300
4.—Lots 20 and 21, Lorette . . .	Inner and outer 2 miles, comfortable buildings and large cultivation, at Lorette . . .	352	2000
5.—Lot 66, St. Anne's . . .	House and large cultivation, close to Village of St. Anne's . . .	200	900
6.—S.W. $\frac{1}{4}$ 27, 7, 7 E . . .	Unimproved, on the Seine River, near Giroux . . .	160	700
7.—Lot 42, Lorette . . .	Partly improved — valuable farm, near Lorette . . .	200	800
8.—N. W. $\frac{1}{4}$ 13 and S. $\frac{1}{2}$ of N. E. $\frac{1}{4}$ 14, 10, 4 E . . .	Partly improved, 10 miles East of Winnipeg . . .	210	1100

STONEWALL AND BALMORAL DISTRICTS.

9.—N. W. $\frac{1}{4}$ 23, 14, 1 W . . .	Unimproved, fine dry prairie, near Argyle . . .	160	\$ 800
10.—N. $\frac{1}{2}$ 30, 14, 1 W . . .	Excellent buildings and large cultivation, at Oswald P. O . . .	320	1200
11.—N.E. $\frac{1}{4}$ 28, 14, 1 W . . .	Concrete house and partly improved, near Oswald P. O . . .	160	350
12.—S.W. $\frac{1}{4}$ 36, 15, 2 E . . .	Comfortable buildings, 12 acres cultivated, N. W. of Balmoral . . .	160	500
13.—S.W. $\frac{1}{4}$ 32, 15, 2 E . . .	Comfortable buildings, 12 acres cultivated, 4 miles North of Balmoral . . .	160	500
14.—S.E. $\frac{1}{4}$ 6, 16, 2 E . . .	Unimproved, good wheat land, 5 miles N. of Balmoral . . .	160	600
15.—N.E. $\frac{1}{4}$ and N. $\frac{1}{2}$ of S. E. $\frac{1}{4}$ 16, 15, 4 E . . .	Unimproved, good wheat land 10 miles N.W. of Selkirk, near Clandeby P.O. . . .	240	1000
16.—N.W. $\frac{1}{4}$ and W. $\frac{1}{2}$ of N.E. $\frac{1}{4}$ 34, 12, 2 E . . .	Unimproved, good wheat land, close to Stony Mountain . . .	240	Offers invited
17.—S.W. $\frac{1}{4}$ and N. $\frac{1}{2}$ of S. E. $\frac{1}{4}$ 35, 12, 2 E . . .	Unimproved, good wheat land . . .	240	Offers invited
18.—Southerly 140 acres of S. E. $\frac{1}{4}$ 12, 16, 1 E . . .	Improved, North of Balmoral, in good locality . . .	140	\$ 350

HEADINGLY, OAKVILLE AND HIGH BLUFF.

19.—Lot 211, St. Francois Xavier . . .	Improved, good location . . .	203	\$ 800
20.—Lots 47 and 48, Headingly . . .	Buildings and largely cultivated; farm is next to Village of Headingly . . .	180	2000
21.—S.W. $\frac{1}{4}$ 10 and N. $\frac{1}{2}$ of N. W. $\frac{1}{4}$ 11, 5 W . . .	Wild land, $\frac{1}{2}$ miles from Oakville, Cheap . . .	240	800
22.—N.W. $\frac{1}{4}$ and W. $\frac{1}{2}$ of N.E. $\frac{1}{4}$ 23, 9, 1 W . . .	Wild land, level prairie, six miles East of Starbuck . . .	240	600
23.—W. $\frac{1}{4}$ 26, 11, 3 W . . .	Unimproved, fine prairie, close to St. Eustache . . .	320	1200
24.—N.E. $\frac{1}{4}$ & E. $\frac{1}{2}$ of N. W. $\frac{1}{4}$ 4, 9, 2 E . . .	Unimproved, fine prairie, near La Salle Station . . .	235	800

PORTAGE LA PRAIRIE AND MARQUETTE.

25.—S. E. $\frac{1}{4}$ 7, 11, 7 W . . .	No improvements, considerable timber, 9 miles S.W. of Portage la P . . .	160	\$ 500
26.—N. $\frac{1}{2}$ and S.E. $\frac{1}{4}$ 2, 13, 3 W . . .	One mile West of Marquette, fine hay land . . .	480	1000

RED RIVER LOTS.

27.—Lot 4, St. Andrews . . .	10 miles North of Winnipeg, a bargain . . .	188	\$ 1100
28.—Lot 29, St. Andrews . . .	Outer 2 miles only, unimproved . . .	44	250
29.—Lots 72, 73, 74, St. Norbert . . .	At St. Norbert Village, 10 miles S. of Winnipeg, a bargain (will sell these lots singly or collectively) . . .	865	7500
30.—Lot 14, St. Norbert . . .	At Glenlea P.O. 15 miles South of Winnipeg, well improved, with bldgs . . .	154	2000
31.—Lot 613, St. Agathe . . .	16 miles South of Winnipeg, improved, with buildings . . .	155	1600
32.—Lot 559, St. Agathe . . .	At Village of St. Agathe, unimproved, All farm and location . . .	160	1200
33.—Lot 232, St. Agathe . . .	Will sell separately } Opposite St. Jean, im- or en bloc, a bar- } proved. gain . . .	160 160 160	900 900 900
34.—Lot 244, St. Agathe . . .	Opposite St. Agathe Village, wild land 110 acres broken, nice farm, good buildings, 4 miles S. of Morris, on East side of River . . .	240	1500
35.—Lot 236, St. Agathe . . .			
36.—Lot 532, St. Agathe . . .			
37.—Lots 290 and 292, St. Agathe . . .			
38.—Lot 180, St. Agathe . . .	About $\frac{1}{2}$ miles South of St. Jean, on East side of River, improved good buildings . . .	210	1800
39.—Lot 202, St. Agathe . . .	About $\frac{3}{4}$ miles South of St. Jean, on East side of River, improved . . .	107	1000
40.—Lot 233, St. Agathe . . .	Part of the Village of St. Jean, valuable property, improved . . .	131 $\frac{1}{2}$	600
		123	2200

LETELLIER AND ROSENFELD DISTRICTS.

41.—S. E. $\frac{1}{4}$ 32, 2, 1 E . . .	Improved, buildings and cultivation . . .	160	\$ 140
42.—S. E. $\frac{1}{4}$ 30, 2, 1 E . . .	Unimproved, good stock farm . . .	160	1100
43.—S. W. $\frac{1}{4}$ 34, 2, 1 W . . .	Improved, buildings, cultivation and fencing . . .	160	1000

MORDEN DISTRICT.

44.—S. W. $\frac{1}{4}$ 36, 1, 6 W . . .	Unimproved, South of Morden . . .	160	\$ 50
45.—N. E. $\frac{1}{4}$ 24, 1, 6 W . . .	Improved, South of Morden . . .	160	600
46.—N. E. $\frac{1}{4}$ 1 and S. E. $\frac{1}{4}$ 12, 4, 6 W . . .	Highly improved, buildings, fencing and cultivation, a beautiful farm, 80 acres just broken, 225 acres in all under cultivation. One mile from Nelson . . .	320	4000

DOMINION CITY AND ST. MALO.

47.—S.E. $\frac{1}{4}$ 35 and N. E. $\frac{1}{4}$ 26, 1, 4 E . . .	Excellent half section, improved by cultivation, near Ridgville P.O. . . .	320	\$ 150
48.—E. $\frac{1}{4}$ 36, 1, 4 E . . .	Good stock farm, hay abundant . . .	320	800
49.—N. E. $\frac{1}{4}$ 6, 1, 5 E . . .	Log buildings and cultivation, 12 miles East of Emerson . . .	160	600
50.—S. E. $\frac{1}{4}$ 23, 1, 5 E . . .	No improvements } Near Ridgville P.O. . . .	160	400
51.—N. W. $\frac{1}{4}$ 28, 1, 5 E . . .	No improvements } P.O. . . .	160	400
52.—S. E. $\frac{1}{4}$ 28, 2, 5 E . . .	No improvements, nr. Greenridge P.O. . . .	160	400
53.—N. W. $\frac{1}{4}$ and N. $\frac{1}{2}$ of S. W. $\frac{1}{4}$ 18, 4, 5 E . . .	Wild land. } These parcels are all in the St. Malo Settlement, East of Otterburne. . . .	240	500
54.—S. W. $\frac{1}{4}$ and S. $\frac{1}{2}$ of N. W. $\frac{1}{4}$ 30, 4, 5 E . . .	Wild land. } . . .	240	500
55.—S. W. $\frac{1}{4}$ 10 and E. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ 9, 5, 3 E . . .	Wild land. } . . .	210	500
56.—E. $\frac{1}{4}$ 36, 2, 4 E, and W. $\frac{1}{2}$ 31, 2, 5 E . . .	Improved, large cultivation, close to Greenridge P.O. . . .	440	2000

MANITOU AND SOMERSET DISTRICTS.

57.—S. W. $\frac{1}{4}$ 36, 2, 9 W . . .	5 miles South of Manitou, unimproved, cheap farm . . .	160	\$ 500
58.—W. $\frac{1}{2}$ 36, 4, 9 W . . .	Excellent stock farm near St. Leon . . .	320	1000
59.—S. $\frac{1}{2}$ 13, 6, 10 W . . .	Improved, North of Somerset, near Beaconsfield . . .	320	1300

BALDUR AND CARTWRIGHT DISTRICTS.

60.—S. E. $\frac{1}{4}$ 20, 4, 13 W . . .	A large cultivation, log buildings, near Pasadena P.O . . .	160	\$ 700
61.—All 13, 4, 14 W . . .	Excellent section, unimproved, 5 miles South of Baldur, a bargain . . .	640	3000

OAK LAKE, VIRDEN, ELKHORN & BEULAH DISTRICTS.

62.—E. $\frac{1}{2}$ 23, 15, 27 W . . .	Slightly improved, beautiful situation on Birdtail Creek, near Beulah . . .	320	\$ 1000
63.—S. W. $\frac{1}{4}$ 16, 7, 24 W . . .	Improved, large summer fallow ready, near Findlay . . .	160	450
64.—S. E. $\frac{1}{4}$ 20, 7, 24 W . . .	Improved farm, good location, near Findlay . . .	160	300
65.—S. $\frac{1}{2}$ 18, 9, 28 W . . .	Large cultivation and small house, South of Elkhorn . . .	320	1000
66.—N. W. $\frac{1}{4}$ 10, 9, 26 W . . .	House and large cultivation, near Virden . . .	160	600
67.—N. E. $\frac{1}{4}$ 19, 8, 23 W . . .	Small cultivation, near Oak Lake . . .	160	500
68.—S. E. $\frac{1}{4}$ 28, 8, 27 W . . .	Unimproved, good farm near Reston . . .	160	450

MINNEDOSA AND RAPID CITY DISTRICTS.

69.—N. W. $\frac{1}{4}$ 13, 14, 19 W . . .	Unimproved, good quarter at Riverdale Station . . .	160	\$ 500
70.—W. $\frac{1}{2}$ of N. W. $\frac{1}{4}$ 18, 16, 22 W . . .	Near Strathclair, unimproved . . .	80	200
71.—E. $\frac{1}{2}$ 22, 14, 21 W . . .	Good stock farm, plenty of hay, unimproved . . .	320	800
72.—S. W. $\frac{1}{4}$ 24, 14, 20 W . . .	Good stock farm, unimproved . . .	160	400
73.—S. $\frac{1}{2}$ 1, 14, 21 W . . .	Fine place for mixed farming . . .	320	1000

ARDEN AND NEPEAWA DISTRICTS.

74.—S. W. $\frac{1}{4}$ 16, 15, 13 W . . .	3 miles east of Arden, buildings and cultivation . . .	160	\$ 900
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CITY OF WINNIPEG.

75.—Lot 125, Maria Ave . . .	Fort Rouge. Large frame house on stone foundation, being Street No. 375 . . .		\$ 2500
76.—Lot 5, in Blk. 10, McWilliam Street . . .	No. 440, frame house on lot, 28 x 112 to a lane . . .		1000
77.—Lots 1 and 2, Blk. 12, W. S. Main Street . . .	Oriental Hotel and stores opposite C. P. R. Depot. All site . . .		14000
78.—Lots 165 and 166, Blk. 3, Hudson's Bay Reserve . . .	No. 271 Broadway, fine residence and grounds . . .		8000
79.—Lots 552 and 553, Hudson's Bay Reserve . . .	Corner of York and Carlton Sts., will yield 10% net on investment. All residential property . . .		Offers invited

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things must be ironed; things used for high days and holidays. You can't do everything, though you worked all nights and Sundays, so save your strength, your time and your health, and do the most needful things first.

And another way to economize all these is to stain and oil, with terra cotta Diamond dye, or paint everything about the house that paint will improve—table legs, chairs, floor, window frames; not necessarily all one color. One dollar's worth of paint will save you hours of hard, dirty and almost useless work. What pleasure to wash off a painted surface. The prepared paints set so quickly that if you get your things on hand by the time the long days of June come, you can work wonders with paint—oil to thin it a little, a 35-cent brush, and an hour or two each evening. You think you are nearly tired to death now, and so you are, and I am sorry, sorry to the heart, for you, but if you once get a coat of paint over everything, you would take heart again. Don't you often find the more you have to do, the more you can do? If you can get your husband to help you, so much the better. When he sees you working bravely, he may help you when he comes from the garden.

And in those same long days in June you can color your old yellow-white blankets (after sewing the outsides and opening the middle.) One package of cardinal will dye two blankets a pretty rose color, if they are all wool. Clear the top of the stove and put on your big bread pan, and follow directions. Keep your best white blankets, sheets, etc., for state occasions, or a case of emergency.

Of course, you use creamers, and are interested in the best methods of home dairying. Well, it does pay to make good butter for our own use, and it cannot be trifled with. Be sure and have a thermometer, and use it. A print also is a great help, if you sell it that way, but the butter paper is indispensable. As soon as the weather gets cool in the fall pour scalding hot water into the creamer immediately after the milk is strained. It will make the cream rise more quickly, and will make the butter come in the proper time. When you are churning, wet the spoon with cream and the coloring will not stick to it.

Warm the calf's milk in an old tin can or tin pail set in a pot with hot water.

Don't get cotton for bibs or tea towels, but a cotton cloth, with the least moisture of coal oil, makes a good duster.

Use a cork to rub the knives with when cleaning with bathbrick, and Gillett's lye to soften water; and get a Dover egg-beater if you only make a jelly cake occasionally. Don't waste your time and strength in making pies—that is, not very often. Good bread and butter, and perhaps a little fruit of your own growing, are much healthier for all than pastry, even if it is very good.

It pays, too, to take care of the table oil cloth; it ruins it to set pots or clean knives on it, and when you have got a new one, take the old one and tack it on with the canvas side up, and it will serve as a pad to the new one and hold it so it will not slip, making it wear evenly, and when it is necessary to mend it, take a corner of itself, or a bit like it, cut the hole neatly and put the piece under with mucilage or smooch flour paste. Mended in this way, it will last as long as the rest. An old mit in the handle of the stove brush makes it easy to rub over the top of the stove to keep it from getting foxy.

A baking powder tin, with a hole in the top, makes a good potato cutter; and you can fry bacon in the oven when the top of the stove is engaged—such as on washing days.

If you do any knitting for the children, Scotch fingering yarn is about the only

kind worth knitting; or, if you buy, one good pair is worth two poor, thin ones, if kept well mended, even if you have to wash and mend them when the little feet are in bed. Then you can do double work, for "Love Lightens Labor;" and the prayers breathed for these little ones while mending the stockings will be answered "Some time, somewhere." Cut down the cashmere stockings and sole them after they have been darned awhile, and, in either knitting or soling, to keep the heel wider than the front makes a better shape.

When you are very tired, wash your hands and face in hot water, and see how refreshing it is, or take the cross little baby and lie down a few minutes and think how hard your lot is; then think of all your blessings, and see how much better off you are than so many others. Think of some promise and don't get discouraged. Do the most needful thing first. Don't worry, either, if you cannot go to church; you can teach the commandments, psalms, and good old hymns to the little ones while they help you to peel the potatoes or wash the dishes, and, if their father very kindly leaves all the mental, moral and spiritual training of the children to you, never mind, you can do that too. You will have the worry and toil now, and the greater reward hereafter, and it will be around the mother the tenderest memories of home will cling, and the unselfish, loving life of self-denial and years of trust in God will so enlarge the soul's capacity for the enjoyments of heaven that many a mother will be nearer the Throne through the lessons learned in weariness and weakness here.

Other Contributions Received.

The letters received this month from farmers' wives, almost all of them only too familiar with the toils and loneliness and privations of pioneer life, are nearly all very short, probably because the writers have little experience in such work, probably also because of lack of time to concentrate their thoughts on any special topic. The paper to which the prize is awarded, in its own way, is very good. It takes a deeper and stronger hold of the stern realities of life and the surest way to overcome difficulties and stimulate courage and hope. One writer does not trust her own powers of expression, and culls from the Book of Books the thought that nerve her to effort and confidence in her far out sphere of life.

"The fruit of the spirit is love." "God is love, and he that dwelleth in love dwelleth in God, and God in him." "The love of God is shed abroad in our hearts by the Holy Ghost which is given unto us." "Unto you . . . which believe He is precious. We love Him, because He first loved us." "The love of Christ constraineth us; because we thus judge, that if one died for all, then were all dead; and that He died for all, that they which live should not henceforth live unto themselves, but unto Him which died for them, and rose again." "Ye yourselves are taught of God to love one another. This is my commandment. That ye love one another, as I have loved you. Above all things have fervent charity among yourselves, for charity shall cover a multitude of sins. Walk in love, as Christ also hath loved us, and hath given himself for us, an offering and a sacrifice for a sweet-smelling savour."

Nancy Morrow, Silver Springs, a 12-year-old aspirant, sends the following, that should be read among every household of children:—"Perhaps helpfulness is one of the most pleasant doings of a child towards its parents, or anybody else whom

it thinks needs help. The girls generally help their mother and the boys their father, although many young boys are glad and willing to do a little turn once in a while to help their mother along with the work. One of the principal things necessary for one who intends to help all he can, is "obedience." If every little boy and girl would think on this line, "Children obey your parents," they perhaps might be persuaded to do whatever they are asked to. When they are young, and altogether helpless, they are cared for by their parents with the utmost kindness, and, as the fathers and mothers grow older, it is the children's turn to help them. Children are not supposed to work so hard as to injure themselves in any way, but every little helps, and by and by they will have done quite a bit of work. If they go to their work willing it will seem much easier to them, and so they will not mind how much work they do to help anyone."

An elderly lady, who has done her full share of this world's work, suggests that the people who offer good advice should state their age, the difficulties they have had to encounter, and the size of the family they have had to work for. She pertinently asks: "What can a woman, who has only two children, keeps a servant, and pays for her sewing, know in comparison to the woman who has planned and struggled with her six or eight children to keep up appearances and live on half pay? We have so many to dictate and scold and fault-finding mothers and housekeepers, who know nothing about such things, and write merely to air their views. We want as counsellors women who have borne burdens and endured trials. I once read a letter to a newspaper by a woman who was in trouble with overwork and very small children, confessing her irritableness and her sorrow in not being able to overcome her weakness, and asking advice. The editor stated plainly that he wanted no advice for such a case but from those who had been through trouble of the same kind themselves. After a time one adviser said she had overcome through asking strength from a higher power."

An experienced mother at Minnedosa writes thus about the care of children:—"I have spent all my life amongst children, and have raised a large family. I have followed out certain rules with them all, and any one would go a long way to see such healthy children. One rule is that they must go to sleep at noon, until they are four years old. Another rule is, after they are three they are allowed no pieces between meals. As a consequence they are always ready for a good hearty meal. My children have never had any of the diseases that most children are subject to. One of them had the croup. My cure is simple, and always handy. Strong black pepper tea in cold water, sweetened with sugar. I take one-half teaspoonful of pepper to half a cup of water. I have seen it cure very bad cases. For a cough nothing equals oil of tar on sugar or syrup; a cough is incurable if that does not cure." This reads very much like the Scotch prescription "Porridge and Presbyterianism."

A young lady, who has had a rather better education and corresponding social advantages, sends us her views on the relation of dress to character, and we hope to hear from her again. Variety gives zest. She says:—"By careful observation of her dress and general appearance a great deal may be concluded of a woman's character and tastes. This may seem almost impossible to any but a careful observer; but, on looking around among your feminine friends you will find

such to be the case. Invariably a woman whose disposition is quiet and retiring will choose her gowns in neutral tints, simply because she does not wish to be conspicuous. On the other hand, one who is fond of notice, and who likes to be foremost in everything in which she takes part, wears bright colors and large designs, so that her costume makes it impossible to omit noticing it. But, to be more minute. Is it not the pink and white, fairy little creature who is fond of frills, furbelows, laces and ribbons, while her tall, handsome sister affects a plain tailor-made gown in a serviceable tweed? Again, how often the wearer of red or yellow is dark and vivacious; the up-to-date girl, who is fond of outdoor sports, prefers a shirt front, collar and tie, and the nut-brown maiden looks demure in her favorite brown. It is not altogether the colors and styles worn which tell us so much, but the many details belonging to my lady's toilet. If these are of good quality, and in perfect harmony with the dress with which they are worn, the wearer is at once stamped a woman of refinement. She whose shoes are ill-fitting or down at the heels, whose ribbons are soiled, whose gloves are often buttonless, shows plainly that, even though her dress and her hat are irreproachable, she is careless of details so long as the main part is correct. This is a sad mistake, for by defying the law of neatness in the many accessories, what would have been a good appearance is entirely spoilt. What a charm there is about the woman whose personal articles are in perfect taste and repair. For instance, her veils are free from creases, and are put on with the greatest care, no pins are visible about the person, and everything pertaining to her has a delicate and delightful odor of her favorite perfume. Another very important thing that speaks for its wearer is the quantity and quality of jewelry worn. An over-abundance worn at one time, whether real or imitation, is in bad taste, but when the latter, the effect is atrocious and shows a vulgar love of display. When jewelry is worn in daylight, and on the street especially, it should be put on with a sparing hand, and only the smallest designs and jewels used. Pearls are to be preferred, and they are always pretty and in good taste. It is quite possible to do and have all these things, and still find time for other duties, and the girl who can manage a house by herself, if necessary, has good reason to be proud of her capabilities, and it is an undeniable fact that an untidy mistress and a tidy house never go together. More especially in this great western country of ours, the greatest contempt is felt for the girl who sits in the most comfortable room in the house reading novels and doing fancy work, while her mother slaves away doing the round of household duties, month after month and year after year."

My liberty ends when it begins to involve the possibility of ruin to my neighbor.—John Stuart Mill.

Educate a boy, and what do you get? An intelligent man. Educate a girl, and what do you get? An intelligent family.

Religion is the mortar that binds society together: the granite pedestal of liberty; the strong backbone of the social system. —Dr. Guthrie.

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Cranford.

(Continued from Last Issue.)

CHAPTER IV.

A few days after, a note came from Mr. Holbrook, asking us—impartially asking both of us—in a formal, old-fashioned style, to spend a day at his house—a long June day—for it was June now. He named that he had also invited his cousin, Miss Pole; so that we might join in a fly, which could be put up at his house.

I expected Miss Matty to jump at this invitation; but no! Miss Pole and I had the greatest difficulty in persuading her to go. She thought it was improper; and was even half annoyed when we utterly ignored the idea of any impropriety in her going with two other ladies to see her old lover. Then came a more serious difficulty. She did not think Deborah would have liked her to go. This took us half a day's good hard talking to get over; but, at the first sentence of relenting, I seized the opportunity, and wrote and dispatched an acceptance in her name—fixing day and hour, that all might be decided and done with.

The next morning she asked me if I would go down to the shop with her; and there, after much hesitation, we chose out three caps to be sent home and tried on, that the most becoming might be selected to take with us on Thursday.

She was in a state of silent agitation all the way to Woodley. She had evidently never been there before; and, although she little dreamt I knew anything of her early story, I could per-

ceive she was in a tremor at the thought of seeing the place which might have been her home, and round which it is probable that many of her innocent girlish imaginations had clustered. It was a long drive there, through paved jolting lanes. Miss Matilda sat bolt upright, and looked wistfully out of the windows as we drew near the end of our journey. The aspect of the country was quiet and pastoral. Woodley stood among fields; and there was an old-fashioned garden where roses and currant-bushes touched each other, and where the feathery asparagus formed a pretty background to the pinks and gilly-flowers; there was no drive up to the door. We got out at a little gate, and walked up a straight box-edged path.

"My cousin might make a drive, I think," said Miss Pole, who was afraid of earache, and had only her cap on.

"I think it is very pretty," said Miss Matty, with a soft plaintiveness in her voice, and almost in a whisper, for just then Mr. Holbrook appeared at the door, rubbing his hands in very effervescence of hospitality. He looked more like my idea of Don Quixote than ever, and yet the likeness was only external. His respectable housekeeper stood modestly at the door to bid us welcome; and, while she led the elder ladies upstairs to a bedroom, I begged to look about the garden. My request evidently pleased the old gentleman, who took me all round the place, and showed me his six and twenty cows, named after the different letters of the alphabet. As we went along, he surprised me occasionally by repeating apt and beautiful quotations from the poets, ranging easily from Shakespeare and George Herbert to those of our own day. He



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did this as naturally as if he were thinking aloud, and their true and beautiful words were the best expression he could find for what he was thinking or feeling. To be sure, he called Byron "my Lord Byrron," and pronounced the name Goethe strictly in accordance with the English sound of the letters—"As Goethe says, 'Ye ever-verdant palaces,'" etc. Altogether, I never met with a man, before or since, who had spent so long a life in a secluded and not impressive country, with ever-increasing delight in the daily and yearly change of season and beauty.

When he and I went in, we found that dinner was nearly ready in the kitchen—for so I suppose the room ought to be called, as there were oak dressers and cupboards all round, all over by the side of the fire-place, and only a small Turkey carpet in the middle of the flag-floor. The room might have been easily made into a handsome dark oak dining-parlor by removing the oven and a few other appurtenances of a kitchen, which were evidently never used, the real cooking-place being at some distance. The room in which we were expected to sit was a stiff-furnished, ugly apartment; but that in which we did sit was what Mr. Holbrook called the counting-house, when he paid his laborers their weekly wages at a great desk near the door. The rest of the pretty sitting-room—looking into the orchard, and all covered over with dancing tree-shadows—was filled with books. They lay on the ground, they covered the walls, they strewed the table. He was evidently half-ashamed and half-proud of his extravagance in this respect. They were of all kinds—poetry and wild weird tales prevailing. He evidently chose his books in accordance with his own tastes, not because such and such were classical or established favorites.

"Ah!" he said, "we farmers ought not to have much time for reading; yet somehow one can't help it."

"What a pretty room!" said Miss Matty, sotto voce.

"What a pleasant place!" said I, aloud almost simultaneously.

"Nay! if you like it," replied he; "but can you sit on these great black-leather three-cornered chairs? I like it better than the best parlor; but I thought ladies would take that for the smarter place."

It was the smarter place, but, like most smart things, not at all pretty, or pleasant, or home-like; so, while we were at dinner, the servant-girl dusted and scrubbed the counting-house chairs, and we sat there all the rest of the day.

We had pudding before meat; and I thought Mr. Holbrook was going to make some apology for his old-fashioned ways, for he began—

"I don't know whether you like new-fangled ways."

"Oh! not at all!" said Miss Matty.

"No more do I," said he. "My housekeeper will have these in her new fashion; or else I tell her that, when I was a young man, we used to keep strictly to my father's rule, 'No broth, no ball; no ball, no beef'; and always began dinner with broth. Then we had suet puddings, boiled in a broth with the beef; and then the meat itself. If we did not sup our broth, we had no ball, which we liked a deal better; and the beef came last of all, and only those had it who had done justice to the broth and the ball. Now folks begin with sweet things, and turn their dinners topsy-turvy."

When the ducks and green peas came, we looked at each other in dismay; we had only two-pronged black-handled forks. It is true the steel was as bright as silver; but what were we to do? Miss Matty picked up her peas, one by one, on the point of the prongs, much as Amine ate her grains of rice after her previous feast with the Ghouls. Miss Pole sighed over her delicate young peas as she left them on one side of her plate untasted, for they would drop between the prongs. I looked at my host; the peas were going wholesale into his capacious mouth, shoveled up by his large round-ended knife. I saw, I imitated, I survived! My friends, in spite of my precedent, could not muster up courage enough to do an ungenteel thing; and, if Mr. Holbrook had not been so

heartily hungry, he would probably have seen that the good peas went away almost untouched.

After dinner a clay pipe was brought in, and a spittoon; and, asking us to retire to another room, where he would soon join us, if we disliked tobacco-smoke, he presented his pipe to Miss Matty, and requested her to fill the bowl. This was a compliment to a lady in his youth; but it was rather inappropriate to propose it as an honor to Miss Matty, who had been trained by her sister to hold smoking of every kind in utter abhorrence. But if it was a shock to her refinement, it was also a gratification to her feelings to be thus selected; so she daintily stuffed the strong tobacco into the pipe, and then we withdrew.

"It is very pleasant dining with a bachelor," said Miss Matty, softly, as we settled ourselves in the counting-house. "I only hope it is not improper; so many pleasant things are!"

"What a number of books he has!" said Miss Pole, looking round the room. "And how dusty they are!"

"I think it must be like one of the great Dr. Johnson's rooms," said Miss Matty. "What a superior man your cousin must be!"

"Yes!" said Miss Pole, "he's a great reader; but I am afraid he has got into very uncouth habits with living alone."

"Oh! uncouth is too hard a word. I should call him eccentric; very clever people always are!" replied Miss Matty.

When Mr. Holbrook returned, he proposed a walk in the fields; but the two elder ladies were afraid of damp and dirt, and had only very unbecoming calashes to put on over their caps; so they declined, and I was again his companion in a turn which he said he was obliged to take to see after his men. He strode along, either wholly forgetful of my existence, or soothed into silence by his pipe—and yet it was not silence exactly. He walked before me with a stooping gait, his hands clasped behind him; and, as some tree or cloud, or glimpse of distant upland pastures, struck him, he quoted poetry to himself, saying it out loud in a grand sonorous voice, with just the emphasis that true feeling and appreciation give. We came upon an old cedar-tree, which stood at one end of the house—

"The cedar spread his dark-green layers of shade."

"Capital term—'layers!' Wonderful man!" I did not know whether he was speaking to me or not; but I put in an assenting "wonderful," although I knew nothing about it, just because I was tired of being forgotten, and of being consequently silent.

He turned sharp round. "Ay! you may say 'wonderful.' Why, when I saw the review of his poems in Blackwood, I set off within an hour, and walked seven miles to Misselton (for the horses were not in the way) and ordered them. Now, what color are ash-buds in March?" Is the man going mad? thought I. He is very like Don Quixote.

"What color are they, I say?" repeated he vehemently.

"I am sure I don't know, sir," said I, with the meekness of ignorance.

"I knew you didn't. No more did I—an old fool that I am!—till this young man comes and tells me. Black as ash-buds in March. And I've lived all my life in the country; more shame for me not to know. Black; they are jet-black, madam." And he went off again, swinging along to the music of some rhyme he had got hold of.

When he came back, nothing would serve him but he must read us the poems he had been speaking of; and Miss Pole encouraged him in his proposal, I thought, because she wished me to hear his beautiful reading, of which she had boasted; but she afterwards said it was because she had got to a difficult part of her crochet, and wanted to count her stitches without having to talk. Whatever he had proposed would have been right to Miss Matty; although she did fall sound asleep within five minutes after he had begun a long poem, called "Locksley Hall," and had a comfortable nap, unobserved, till he ended; when the cessation of his voice wakened her up, and she said, feeling that

something was expected, and that Miss Pole was counting—

"What a pretty book!"

"Pretty, madam! it's beautiful! Pretty, indeed!"

"Oh, yes! I meant beautiful" said she, flattered at his disapproval of her word. "It is so like that beautiful poem of Dr. Johnson's my sister used to read—I forget the name of it; what was it, my dear?" turning to me.

"Which do you mean, ma'am? What was it about?"

"I don't remember what it was about, and I've quite forgotten what the name of it was; but it was written by Dr. Johnson, and was very beautiful, and very like what Mr. Holbrook has just been reading."

"I don't remember it," said he reflectively. "But I don't know Dr. Johnson's poems well. I must read them."

As we were getting into the fly to return, I heard Mr. Holbrook say he should call on the ladies soon, and inquire how they got home; and this evidently pleased and fluttered Miss Matty at the time he said it; but after we had lost sight of the old house among the trees her sentiments towards the master of it were gradually absorbed into a distressing wonder as to whether Martha had broken her word, and seized on the opportunity of her mistress's absence to have a "follower." Martha looked good, and steady, and composed enough, as she came to help us out; she was always careful of Miss Matty, and to-night she made use of this unlucky speech—

"Eh! dear ma'am, to think of your going out in an evening in such a thin shawl! It's no better than muslin. At your age, ma'am, you should be careful."

"My age!" said Miss Matty, almost speaking crossly, for her, for she was usually gentle—"my age! Why, how old do you think I am, that you should talk about my age?"

"Well, ma'am, I should say you were not far short of sixty; but folks' looks is often against them—and I'm sure I meant no harm."

"Martha, I'm not yet fifty-two!" said Miss Matty, with grave emphasis; for probably the remembrance of her youth had come very vividly before her this day, and she was annoyed at finding that golden time so far away in the past.

But she never spoke of any former and more intimate acquaintance with Mr. Holbrook. She had probably met with so little sympathy in her early love that she had shut it up close in her heart; and it was only by a sort of watching, which I could hardly avoid since Miss Pole's confidence, that I saw how faithful her poor heart had been in its sorrow and its silence.

She gave me some good reason for wearing her best cap every day, and sat near the window, in spite of her rheumatism, in order to see, without being seen, down into the street.

He came. He put his open palms upon his knees, which were far apart, as he sat with his head bent down, whistling, after we had replied to his inquiries about our safe return. Suddenly he jumped up—

"Well, madam! have you any commands for Paris? I am going there in a week or two."

"To Paris!" we both exclaimed.

"Yes, madam! I've never been there, and always had a wish to go; and I think if I don't go soon, I mayn't go at all; so as soon as the hay is got in I shall go, before harvest time."

We were so much astonished that we had no commissions.

Just as he was going out of the room he turned back, with his favorite exclamation—

"God bless my soul, madam! but I nearly forgot half my errand. Here are the poems for you you admired so much the other evening at my house." He tugged away at a parcel in his coat pocket. "Good-bye, miss," said he; "good-bye, Matty! take care of yourself." And he was gone. But he had given her a book, and he had called her Matty, just as he used to do thirty years ago.

"I wish he would not go to Paris," said Miss Matilda, anxiously. "I don't believe frogs will agree with him; he used to have to be very careful what he ate, which was curious in so strong-looking a young man."

Soon after this I took my leave, giving many an injunction to Martha to look after her mistress, and to let me know if she thought that Miss Matilda was not so well; in which case I would volunteer a visit to my old friend, without noticing Martha's intelligence to her.

Accordingly I received a line or two from Martha every now and then; and, about November, I had a note to say her mistress was "very low and sadly off her food;" and the account made me so uneasy that, although Martha did not decidedly summon me, I packed up my things and went.

I received a warm welcome, in spite of the little flurry produced by my impromptu visit, for I had only been able to give a day's notice. Miss Matilda looked miserably ill; and I prepared to comfort and cosset her.

I went down to have a private talk with Martha.

"How long has your mistress been so poorly?" I asked, as I stood by the kitchen fire.

"Well, I think it's better than a fortnight; it is, I know; it was one Tuesday, after Miss Pole had been, that she went into this moping way. I thought she was tired, and it would go off with a night's rest; but no! she has gone on and on ever since, till I thought it my duty to write to you, ma'am."

"You did quite right, Martha. It is a comfort to think she has so faithful a servant about her. And I hope you find your place comfortable?"

"Well, ma'am, missus is very kind, and there's plenty to eat and drink, and no more work but what I can do easily,—but—" Martha hesitated.

"But what, Martha?"

"Why, it seems so hard missus not to let me have any followers; there's such lots of young fellows in the town; and many a one has as much as offered to keep company with me; and I may never be in such a likely place again, and it's like wasting an opportunity. Many a girl as I know would have 'em unbeknownst to missus; but I've given my word, and I'll stick to it; or else this is just the house for missus never to be the wiser if they did come; and it's such a capital kitchen—there's such good dark corners in it—I'd be bound to hide any one. I counted up last Sunday night—for I'll not deny I was crying because I had to shut the door in Jem Hearn's face, and he's a steady young man, fit for any girl; only I had given missus my word." Martha was all but crying again and I had little comfort to give her, for I knew, from old experience of the horror with which both the Miss Jenkynses looked upon "followers;" and in Miss Matty's present nervous state this dread was not likely to be lessened.

I went to see Miss Pole the next day, and took her completely by surprise, for she had not been to see Miss Matilda for two days.

"And now I must go back with you, my dear, for I promised to let her know how Mr. Holbrook went on; and, I'm sorry to say, his housekeeper has sent me word to-day that he hasn't long to live. Poor Thomas! that journey to Paris was quite too much for him. His housekeeper says he has hardly ever been round his fields since, but just sits with his hands on his knees in the counting-house, not reading or anything, but only saying what a wonderful city Paris was! Paris has much to answer for if it's killed my cousin Thomas, for a better man never lived."

"Does Miss Matilda know of his illness?" asked I—a new light as to the cause of her indisposition dawning upon me.

"Dear! to be sure, yes! Has not she told you? I let her know a fortnight ago, or more, when first I heard of it. How odd she shouldn't have told you!"

Not at all, I thought; but I did not say anything. I felt almost guilty of having spied too curiously into that tender heart, and I was not going to speak of its secrets—hidden, Miss Matty believed, from all the world. I ushered Miss Pole into Miss Matilda's little drawing-room, and then left them alone. But I was not surprised when Martha came to my bedroom door, to ask me to go down to dinner alone, for

that missus had one of her bad headaches. She came into the drawing-room at tea-time, but it was evidently an effort to her; and, as if to make up for some reproachful feeling against her late sister, Miss Jenkyns, which had been troubling her all the afternoon, and for which she now felt penitent, she kept telling me how good and how clever Deborah was in her youth; how she used to settle what gowns they were to wear at all parties (faint, ghostly ideas of grim parties, far away in the distance, when Miss Matty and Miss Pole were young!); and how Deborah and her mother had started the benefit society for the poor, and taught girls cooking and plain sewing; and how Deborah had once danced with a lord; and how she used to visit Sir Peter Arley's, and try to remodel the quiet rectory establishment on the plans of Arley Hall, where they kept thirty servants; and how she had nursed Miss Matty through a long, long illness, of which I had never heard before, but which I now dated in my own mind as following the dismissal of the suit of Mr. Holbrook. So we talked softly and quietly of old times through the long November evening.

The next day Miss Pole brought us word that Mr. Holbrook was dead. Miss Matty heard the news in silence; in fact, from the account of the previous day, it was only what we had to expect. Miss Pole kept calling upon us for some expression of regret, by asking if it was not sad that he was gone, and saying—

"To think of that pleasant day, last June, when he seemed so well! And he might have lived this dozen years if he had not gone to that wicked Paris, where they are always having revolutions."

She paused—for some demonstration on our part. I saw Miss Matty could not speak, she was trembling so nervously; so I said what I really felt; and after a call of some duration—all the time of which I have no doubt Miss Pole thought Miss Matty received the news very calmly—our visitor took her leave.

Miss Matty made a strong effort to conceal her feelings—a concealment she practiced even with me, for she has never alluded to Mr. Holbrook again, although the book he gave her lies with her Bible on the little table by her bedside. She did not think I heard her when she asked the little milliner of Cranford to make her caps something like the Honorable Mrs. Jamieson's, or that I noticed the reply—

"But she wears widows' caps, ma'am?"

"Oh! I only meant something in that style; not widows', of course, but rather like Mrs. Jamieson's."

This effort at concealment was the beginning of the tremulous motion of head and hands which I have seen ever since in Miss Matty.

The evening of the day on which we heard

of Mr. Holbrook's death, Miss Matilda was very silent and thoughtful; after prayers she called Martha back, and then she stood, uncertain what to say.

"Martha!" she said at last, "you are young"—and then she made so long a pause that Martha, to remind her of her half-finished sentence, dropped a courtesy, and said—

"Yes, please, ma'am; two and twenty last third of October, please, ma'am."

"And perhaps, Martha, you may some time meet with a young man you like, and who likes you. I did say you were not to have followers; but if you meet with such a young man, and tell me, and I find he is respectable, I have no objection to his coming to see you once a week. God forbid!" said she in a low voice, "that I should grieve any young hearts." She spoke as if she were providing for some distant contingency, and was rather startled when Martha made her ready eager answer.

"Please, ma'am, there's Jem Hearn, and he's a joiner making three-and-sixpence a day, and six foot one in his stocking feet, please, ma'am; and if you'll ask about him to-morrow morning, every one will give him a character for steadiness; and he'll be glad enough to come to-morrow night, I'll be bound."

Though Miss Matty was startled, she submitted to Fate and Love.

CHAPTER V.

I have often noticed that almost everyone has his own individual small economies—careful habits of saving fractions of pennies in some one peculiar direction—any disturbance of which annoys him more than spending shillings or pounds on some real extravagance. An old gentleman of my acquaintance, who took the intelligence of the failure of a Joint Stock Bank, in which some of his money was invested, with stoical mildness, worried his family all through a long summer's day, because one of them had torn (instead of cutting) out the written leaves of his now useless bank-book; of course, the corresponding pages at the other end came out as well, and this little unnecessary waste of paper (his private economy) chafed him more than all the loss of his money. Envelopes fretted his soul terribly when they first came in; the only way in which he could reconcile himself to such waste of his cherished article was by patiently turning inside out all that were sent to him, and so making them serve again. Even now, though tamed by age, I see him casting wistful glances at his daughters when they send a whole instead of a half-sheet of note-paper, with the three lines of acceptance to an invitation, written on only one of the sides. I am not above owning that I have this human weakness myself. String is

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Yours truly,

J. A. HAYES,

Lennoxville, P. Q.

my foible. My pockets get full of little hanks of it, picked up and twisted together, ready for uses that never come. I am seriously annoyed if anyone cuts the string of a parcel instead of patiently and faithfully undoing it fold by fold. How people can bring themselves to use India-rubber rings, which are a sort of deification of strings, as lightly as they do, I cannot imagine. To me an India-rubber ring is a precious treasure. I have one which is not new—one that I picked up off the floor nearly six years ago. I have really tried to use it, but my heart failed me, and I could not commit the extravagance.

Small pieces of butter grieve others. They cannot attend to conversation because of the annoyance occasioned by the habit which some people have of invariably taking more butter than they want. Have you not seen the anxious look (almost mesmeric) which such persons fix on the article? They would feel it a relief if they might bury it out of their sight by popping it into their own mouths and swallowing it down; and they are really made happy if the person on whose plate it lies unused suddenly breaks off a piece of toast (which he does not want at all) and eats up his butter. They think that this is not waste.

Now, Miss Matty Jenkyns was chary of candles. We had many devices to use as few as possible. In the winter afternoons she would sit knitting for two or three hours—she could do this in the dark, or by firelight—and when I asked if I might not ring for candles to finish stitching my wristbands, she told me to "keep blind man's holiday." They were usually brought in with tea; but we only burnt one at a time. As we lived in constant preparation for a friend who might come in any evening (but who never did), it required some contrivance to keep our two candles of the same length, ready to be lighted, and to look as if we burnt two always. The candles took it in turns; and, whatever we might be talking about or doing, Miss Matty's eyes were habitually fixed upon the candle, ready to jump up and extinguish it and to light the other before they had become too uneven in length to be restored to equality in the course of the evening.

One night, I remember this candle economy particularly annoyed me. I had been very much tired of my compulsory "blind man's holiday," especially as Miss Matty had fallen asleep, and I did not like to stir the fire and run the risk of awakening her; so I could not even sit on the rug, and scorch myself with sewing by firelight, according to my usual custom. I fancied Miss Matty must be dreaming of her early life; for she spoke one or two words in her uneasy sleep bearing reference to persons who were dead long ago. When Martha brought in the lighted candle and tea, Miss Matty started into wakefulness, with a strange bewildered look around, as if we were not the people she expected to see about her. There was a little sad expression that shadowed her face as she recognized me; but immediately afterwards she tried to give me her usual smile. All through tea-time her talk ran upon the days of her childhood and youth. Perhaps this reminded her of the desirableness of looking over all the old family letters, and destroying such as ought not to be allowed to fall into the hands of strangers; for she had often spoken of the necessity of this task, but had always shrunk from it, with a timid dread of something painful. To-night, however, she rose up after tea and went for them—in the dark; for she piqued herself on the precise neatness of all her chamber arrangements, and used to look uneasily at me when I lighted a bed-candle to go to another room for anything. When she returned there was a faint pleasant smell of Tonquin beans in the room. I had always noticed this scent about any of the things which belonged to her mother; and many of the letters were addressed to her—yellow bundles of love-letters, sixty or seventy years old.

Miss Matty undid the packet with a sigh; but she stifled it directly, as if it were hardly right to regret the flight of time, or of life either. We agreed to look over them separately, each taking a different letter out of the same bundle

and describing its contents to the other before destroying it. I never knew what sad work the reading of old letters was before that evening, though I could hardly tell why. The letters were as happy as letters could be—at least those early letters were. There was in them a vivid and intense sense of the present time, which seemed so strong and full, as if it could never pass away, and as if the warm living hearts that so expressed themselves could never die, and be as nothing to the sunny earth. I should have felt less melancholy, I believe, if the letters had been more so. I saw the tears stealing down the well-worn furrows of Miss Matty's cheeks, and her spectacles often wanted wiping. I trusted at last that she would light the other candle, for my own eyes were rather dim, and I wanted more light to see the pale-faded ink; but no, even through her tears, she saw and remembered her little economical ways.

The earliest set of letters were two bundles tied together, and ticketed (in Miss Jenkyns's handwriting), "Letters interchanged between my ever-honored father and my dearly beloved mother, prior to their marriage, in July, 1774." I should guess that the rector of Cranford was about twenty-seven years of age when he wrote those letters; and Miss Matty told me that her mother was just eighteen at the time of her wedding. With my idea of the rector, derived from a picture in the dining-parlor, stiff and stately, in a huge full-bottomed wig, with gown, cassock, and bands, and his hand upon a copy of the only sermon he ever published—it was strange to read these letters. They were full of eager, passionate ardor; short homely sentences, right fresh from the heart (very different from the grand Latinized, Johnsonian style of the printed sermon, preached before some judge at assize time). His letters were a curious contrast to those of his girl-bride. She was evidently rather annoyed at his demands upon her for expressions of love, and could not quite understand what he meant by repeating the same thing over in so many different ways; but what she was quite clear about was a longing for a white "Paduasoy," whatever that might be; and six or seven letters were principally occupied in asking her lover to use his influence with her parents (who evidently kept her in good order) to obtain this or that article of dress, more especially the white "Paduasoy." He cared nothing how she was dressed; she was always lovely enough for him, as he took pains to assure her, when she begged him to express in his answers a predilection for particular pieces of finery, in order that she might show what he said to her parents. But at length he seemed to find out that she would not be married till she had a "trousseau" to her mind; and then he sent her a letter, which had evidently accompanied a whole boxful of finery, and in which he requested that she might be dressed in everything her heart desired. This was the first letter, ticketed in a frail, delicate hand, "From my dearest John." Shortly afterwards they were married, I suppose, from the intermission in their correspondence.

"We must burn them, I think," said Miss Matty, looking doubtfully at me. "No one will care for them when I am gone." And one by one she dropped them into the middle of the fire, watching each blaze up, die out, and rise away, in faint, white, ghostly semblance, up the chimney, before she gave another to the same fate. The room was light enough now; but I, like her, was fascinated into watching the destruction of those letters, into which the honest warmth of a manly heart had been poured forth.

The next letter, likewise docketed by Miss Jenkyns, was endorsed, "Letter of pious congratulation and exhortation from my venerable grandfather to my beloved mother, on occasion of my own birth. Also some practical remarks on the desirability of keeping warm the extremities of infants, from my excellent grandmother."

The first part was, indeed, a severe and forcible picture of the responsibilities of mothers, and a warning against the evils that were in the world, and lying in ghastly wait for the

little baby of two days old. His wife did not write, said the old gentleman, because he had forbidden it, she being indisposed with a sprained ankle, which (he said) quite incapacitated her from holding a pen. However, at the foot of the page was a small "T. O.," and on turning it over, sure enough, there was a letter to "my dear, dearest Molly," begging her, when she left her room, whatever she did, to go upstairs before going down; and telling her to wrap her baby's feet up in flannel, and keep it warm by the fire, although it was summer, for babies were so tender.

It was pretty to see from the letters, which were evidently exchanged with some frequency between the young mother and the grandmother, how the girlish vanity was being weeded out of her heart by love for her baby. The white "Paduasoy" figured again in the letters, with almost as much vigor as before. In one, it was being made into a christening cloak for the baby. It decked it when it went with its parents to spend a day or two at Arley Hall. It added to its charms when it was "the prettiest little baby that was ever seen. Dear mother, I wish you could see her! Without any parsimony, I do think she will grow up a regular beauty!" I thought of Miss Jenkyns, gray, withered, and wrinkled, and I wondered if her mother had known her in the courts of heaven; and then I knew that she had, and that they stood there in angelic guise.

There was a great gap before any of the rector's letters appeared. And then his wife had changed her mode of endorsement. It was no longer from "My dearest John;" but from "My honored husband." The letters were written on occasion of the publication of the same sermon which was represented in the picture. The preaching before "My Lord Judge," and the "publishing by request," was evidently the culminating point—the event of his life. It had been necessary for him to go up to London to superintend it through the press. Many friends had to be called upon, and consulted before he could decide on any printer fit for so onerous a task; and at length it was arranged that J. and J. Rivingtons were to have the honorable responsibility. The worthy rector seemed to be strung up by the occasion to a high literary pitch, for he could hardly write a letter to his wife without cropping out into Latin. I remember the end of one of his letters ran thus: "I shall ever hold the virtuous qualities of my Molly in remembrance, dum memor ipse mei, dum spiritus regit artus," which, considering that the English of his correspondent was sometimes at fault in grammar, and often in spelling, might be taken as a proof of how much he "idealized his Molly;" and, as Miss Jenkyns used to say, "People talk a great deal about idealizing nowadays, whatever that may mean." But this was nothing to a fit of writing classical poetry which soon seized him, in which his Molly figured away as "Maria." The letter containing the carmen was endorsed by her, "Hebrew verses sent me by my honored husband. I thought to have had a letter about killing the pig, but must wait. Mem., to send the poetry to Sir Peter Arley, as my husband desires." And in a post-scriptum note in his handwriting it was stated that the Ode had appeared in the Gentleman's Magazine, December, 1782.

Her letters back to her husband (treasured as fondly by him as if they had been M. T. Ciceronis Epistolae) were more satisfactory to an absent husband and father than his could ever have been to her. She told him how Deborah sewed her seam very neatly every day, and read to her in the books he had sent her; how she was a very "forrard," good child, but would ask questions her mother could not answer; but how she did not let herself down by saying she did not know, but took to stirring the fire, or sending the "forrard" child on an errand. Matty was now the mother's darling, and promised (like her sister at her age) to be a great beauty. I was reading this aloud to Miss Matty, who smiled and sighed a little at the hope, so fondly expressed, that "little Matty might not be vain, even if she were a beauty."

"I had very pretty hair, my dear," said Miss Matilda; "and not a bad mouth." And I saw her soon afterwards adjust her cap and draw herself up.

But to return to Mrs. Jenkyns's letters. She told her husband about the poor in the parish; what homely domestic medicines she had administered; what kitchen physic she had sent. She had evidently held his displeasure as a rod in pickle over the heads of all the ne'er-dowells. She asked for his directions about the cows and pigs; and did not always obtain them, as I have shown before.

The kind old grandmother was dead when a little boy was born, soon after the publication of the sermon; but there was another letter of exhortation from the grandfather, more stringent and admonitory than ever, now that there was a boy to be guarded from the snares of the world. He described all the various sins into which men might fall, until I wondered how any man ever came to a natural death. The gallows seemed as if it must have been the termination of the lives of most of the grandfather's friends and acquaintances; and I was not surprised at the way in which he spoke of this life being "a vale of tears."

It seemed curious that I should never have heard of this brother before; but I concluded that he had died young, or else surely his name would have been alluded to by his sisters.

By and by we came to packets of Miss Jenkyns's letters. These Miss Matty did regret to burn. She said all the others had been only interesting to those who loved the writers, and that it seemed as if it would have hurt her to allow them to fall into the hands of strangers, who had not known her dear mother, and how good she was, although she did not always spell quite in the modern fashion; but Deborah's letters were so very superior! Anyone might profit by reading them. It was a long time since she had read Mrs. Chapone, but she used to think that Deborah could have said the same things quite as well; and as for Mrs. Carter! people thought a deal of her letters just because she had written Epictetus, but she was quite sure Deborah would never have made use of such a common expression as "I canna be fashed!"

Miss Matty did grudge burning these letters, it was evident. She would not let them be carelessly passed over with any quiet reading, and skipping, to myself. She took them from me, and even lighted the second candle in order to read them aloud with a proper emphasis, and without stumbling over the big words. Oh dear! how I wanted facts instead of reflections, before those letters were concluded! They lasted us two nights; and I won't deny that I made use of the time to think of many other things, and yet I was always at my post at the end of each sentence.

The rector's letters, and those of his wife, and mother-in-law, had all been tolerably short and pithy, written in a straight hand, with the lines very close together. Sometimes the whole letter was contained on a mere scrap of paper. The paper was very yellow, and the ink very brown; some of the sheets were (as Miss Matty made me observe) the old original post, with the stamp in the corner representing a post-boy riding for life and twanging his horn. The letters of Mrs. Jenkyns and her mother were fashioned with a great round red wafer; for it was before Miss Edgeworth's Patronage had banished wafers from polite society. It was evident, from the tenor of what was said, that franks were in great request, and were even used as a means of paying debts by needy members of Parliament. The rector sealed his epistles with an immense coat of arms, and showed by the care with which he had performed this ceremony that he expected they should be cut open, not broken by any thoughtless or impatient hand. Now, Miss Jenkyns's letters were of a later date in form and writing. She wrote on the square sheet which we have learned to call old-fashioned. Her hand was admirably calculated, together with her use of many-syllabled words, to fill up a sheet, and then came the delight and pride of crossing. Poor Miss Matty got sadly puzzled with

this, for the words gathered size like snowballs, and towards the end of her letter Miss Jenkyns used to become quite sesquipedalian. In one to her father, slightly theological and controversial in its tone, she had spoken of Herod, Tetrarch of Idumea. Miss Matty read it "Herod, Petrarch of Etruria," and was just as well pleased as if she had been right.

I can't quite remember the date, but I think it was in 1805, that Miss Jenkyns wrote the longest series of letters—on occasion of her absence on a visit to some friends near Newcastle-on-Tyne. These friends were intimate with the commandant of the garrison there, and heard from him of all the preparations that were being made to repel the invasion of Buonaparte, which some people imagined might take place at the mouth of the Tyne. Miss Jenkyns was evidently very much alarmed; and the first part of her letters was often written in pretty intelligible English, conveying particulars of the preparations which were made in the family with whom she was residing against the dreaded event; the bundles of clothes that were packed up ready for the flight to Alston Moor (a wild hilly piece of ground between Northumberland and Cumberland); the signal that was to be given for this flight, and for the simultaneous turning out of the volunteers under arms—which said signal was to consist (if I remember rightly) in ringing the church bells in a particular and ominous manner. One day, when Miss Jenkyns and her hosts were at a dinner party in Newcastle, this warning summons was actually given (not a very wise proceeding, if there be any truth in the moral attached to the fable of the Boy and the Wolf; but so it was), and Miss Jenkyns, hardly recovered from her fright, wrote the next day to describe the sound, the breathless shock, the hurry and alarm; and then, taking breath, she added, "How trivial, my dear father, do all our apprehensions of the last evening appear, at the present moment, to calm and inquiring minds!" And here Miss Matty broke in with—

"But, indeed, my dear, they were not at all trivial or trifling at the time. I know I used to wake up at night many a time and think I heard the tramp of the French entering Cranford. Many people talked of hiding themselves in the salt mines—and meat would have kept capitally down there, only perhaps we should have been thirsty. And my father preached a whole set of sermons on the occasion; one set in the morning, all about David and Goliath, to spirit up the people to fighting with spades or bricks, if need were; and the other set in the afternoons, proving that Napoleon (that was another name for Bony, as we used to call him) was all the same as an Apollyon and Abaddon. I remember my father rather thought he should be asked to print this last set, but the parish had perhaps had enough of them with hearing."

Peter Marmaduke Arley Jenkyns ("poor Peter!" as Miss Matty began to call him) was at school at Shrewsbury by this time. The rector took up his pen, and rubbed up his Latin once more, to correspond with his boy. It was very clear that the lad's were what are called show letters. They were of a highly mental description, giving an account of his studies, and his intellectual hopes of various kinds, with an occasional quotation from the classics; but, now and then, the animal nature broke out in such a little sentence as this, evidently written in a trembling hurry, after the letter had been inspected: "Mother, dear, do send me a cake, and put plenty of citron in." The "mother dear" probably answered her boy in the form of cakes and "goody," for there were none of her letters among this set; but a whole collection of the rector's to whom the Latin in his boy's letters was like a trumpet to the old war-horse. I do not know much about Latin, certainly, and it is, perhaps, an ornamental language, but not very useful, I think—at least to judge from the bits I remember out of the rector's letters. One was, "You have not got that town in your map of Ireland; but Bonus Bernardus non videt omnia, as the Proverbia say." Presently it became very evident that "poor Peter" got himself in-

to many scrapes. There were letters of stilted penitence to his father for some wrong-doing; and among them all was a badly-written, badly-sealed, badly-directed, blotted note—"My dear, dear, dear, dearest mother, I will be a better boy; I will, indeed; but don't, please, be ill for me; I am not worth it; but I will be good, darling mother."

Miss Matty could not speak for crying, after she had read this note. She gave it to me in silence, and then got up and took it to her sacred recesses in her own room, for fear, by any chance, it might get burnt. "Poor Peter!" she said; "he was always in scrapes; he was too easy. They led him wrong, and then left him in the lurch. But he was too fond of mischief. He could never resist a joke. Poor Peter!"

(To be Continued.)

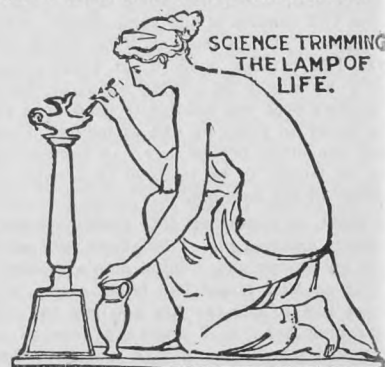
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